

# DAN SCHONFELD

ECE Dept. (M/C 154)  
University of Illinois at Chicago (UIC)  
851 S. Morgan Street – 1020 SEO  
Chicago, IL 60607-7053  
URL: <http://dans.people.uic.edu>

Phone: (312) 996-5847  
Fax: (312) 996-6465  
Google: (872) 216-2844  
Skype: dan\_schonfeld  
E-mail: [dans@uic.edu](mailto:dans@uic.edu)

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## **B. PROFESSIONAL BIOGRAPHY**

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Dr. Schonfeld received the B.S. degree in Electrical Engineering and Computer Science from the University of California, Berkeley, California, and the M.S. and Ph.D. degrees in Electrical and Computer Engineering from The Johns Hopkins University, Baltimore, Maryland, in 1986, 1988, and 1990, respectively.

In August 1990, he joined the Department of Electrical Engineering and Computer Science at the University of Illinois, Chicago, Illinois, where he is Professor Emeritus in the Departments of Electrical and Computer Engineering, Computer Science, and Biomedical Engineering. He has also served as Director of the University-Industry Engineering Research Center (UIERC), also known as the Manufacturing Research Center (MRC). He is also Co-Director of the Multimedia Communications Laboratory (MCL) and member of the Signal and Image Research Laboratory (SIRL).

Dr. Schonfeld has been elevated to the rank of Fellow of the IEEE “for contributions to image and video analysis.” He was also elevated to the rank of Fellow of the SPIE “for specific achievements in morphological image processing and video analysis.” Dr. Schonfeld has been elected University Scholar of the University of Illinois and received the Graduate Mentoring Award of the University of Illinois at Chicago.

Dr. Schonfeld has authored over 250 technical papers in various journals and conferences. He was co-author (with Carlo Giulietti and Rashid Ansari) of a paper that won the Best Paper Award at the ACM Multimedia Workshop on Advanced Video Streaming Techniques for Peer-to-Peer Networks and Social Networking 2010. He was also co-author (with Junlan Yang) of a paper that won the Best Student Paper Award in the IEEE International Conference on Image Processing 2007. He was also co-author (with Wei Qu) of a paper that won the Best Student Paper Award in the IEEE International Conference on Image Processing 2006. He was also co-author (with Nidhal Bouaynaya) of a paper that won the Best Student Paper Award in Visual Communication and Image Processing 2006.

Dr. Schonfeld has served as Editor-in-Chief of the IEEE Transactions on Circuits and Systems for Video Technology. He has also served as Deputy Editor-in-Chief of the IEEE Transactions on Circuits and Systems for Video Technology as well as Area Editor for Special Issues of the IEEE Signal Processing Magazine. He has also served as Associate Editor of the IEEE Transactions on Image Processing (on image and video storage, retrieval and analysis), Associate Editor of the IEEE Transactions on Circuits and Systems for Video Technology (on video analysis), Associate Editor of the IEEE Transactions on Signal Processing (on multidimensional signal processing and multimedia signal processing), and Associate Editor of the IEEE Transactions on Image Processing (on nonlinear filtering). He has also served on the editorial board of various journal publications. He has also served as guest editor for numerous special issues in various journal publications.

Dr. Schonfeld has served on the Conference Board of the IEEE Signal Processing Society. He has also served as Technical Program Chair of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2018. He was also organizer of the Thematic Symposium on Multimedia Search and Retrieval at the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2009. He has also served as General Chair of the International Conference on Internet Multimedia Computing and Service (ICIMCS) 2018, the IEEE Conference on Visual Communication and Image Processing (VCIP) 2016, the Workshop on Big Data in 3D Computer Vision 2013, and the IEEE International Conference on Multimedia and Expo (ICME) 2012. He has also served as Program Chair of the IEEE Conference on Visual Communication and Image Processing (VCIP) 2015. He has also served as Technical Program Chair of the IEEE Workshop on Genomic Signal Processing and Statistics (GENSIPS) 2009 as well as Chair of the Workshop on Video Mining 2008. He has also served as Chair of the SPIE Conference on Visual Communication and Image Processing (VCIP) 2007. He was a member of the organizing committees of the IEEE International Conference on Image Processing (ICIP) 1998, 2012, 2018, and 2020, IEEE/SPIE

International Conference on Visual Communications and Image Processing (VCIP) 2007, 2010, 2015, 2016, and 2017, and IEEE Workshop on Nonlinear Signal and Image Processing (NSIP) 1997.

Dr. Schonfeld was keynote speaker at the N-Brain Alliance Launch & Product Release Conference 2018 as well as Think for Education Conference (TEC) AI+Education 2018. He was also keynote speaker at the International Conference on Wireless Communications and Signal Processing (WCSP) 2016. He was also keynote speaker at the International Conference on Intelligent Control and Information Processing (ICICIP) 2013 and International Conference on Brain Inspired Cognitive Systems (BICS) 2013. He was also plenary speaker at the IEEE/IET International Conference on Audio, Language and Image Processing (ICALIP), Shanghai, China, in 2010. He was also plenary speaker at the IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS), Genoa, Italy, in 2009. He was also plenary speaker at the INPT/ASME International Conference on Communications, Signals, and Systems (ICSSS), Rabat Morocco, in 1995 and 2001.

Dr. Schonfeld has served as Representative of Regions 1-6 (North America) in the Chapters Committee of the IEEE Signal Processing Society. He has also served as Chairman of the Chicago Chapter of the IEEE Signal Processing Society. He is currently serving on the IEEE Multimedia Communications Technical Committee and IEEE Visual Signal Processing and Communications (VSPC) Technical Committee. He has also served on the IEEE Image, Video, and Multidimensional Signal Processing (IVMSP) Technical Committee, formerly the IEEE Image and Multidimensional Signal Processing (IMDSP) Technical Committee. He also served on the American National Standards Institute (ANSI) / Underwriters Laboratory (UL) Standards Technical Panel (“STP”) on Multimedia Systems.

Dr. Schonfeld serves as President of the Schonfeld Consulting Corporation, a company focused on technical support in computer science and engineering. Dr. Schonfeld has served as a consultant and expert witness for various companies including Amazon, ARRIS, ASUS, Blackberry, Bloomberg, Broadcom, Cablevision, Cisco, Cloudflare, Dell, DISH Network, Dolby, GE, Google, GoPro, Hewlett-Packard, Huawei, Intel, Lenovo, LG Electronics, MediaTek, Microsoft, Motorola, Netflix, NVIDIA, Panasonic, Polycom, Qualcomm, Samsung, TASER, Time Warner, TiVo, Vizio, Zeiss. His expertise are in the area of multimedia systems and signal processing and include various topics such as audio and video coding, audio processing, image and video analysis and processing, video-on-demand systems, multimedia communications, multimedia streaming, machine learning, etc.

His current research interests are in signal processing, image and video analysis, video retrieval and communications, multimedia systems, computer vision, machine learning, medical imaging, and genomic signal processing.

## **C. RESEARCH INTERESTS**

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Signal Processing, Image and Video Analysis, Video Retrieval and Communications, Multimedia Systems, Computer Vision, Machine Learning, Medical Imaging, and Genomic Signal Processing.

## **D. HONORS AND AWARDS**

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**IAM Patent 1000 2015: The World’s Leading Patent Practitioners**  
The Worlds Leading Patent Litigation Expert Witnesses  
Fourth Edition  
2015

**Graduate Mentoring Award**  
University of Illinois at Chicago  
2014

**University Scholar**  
University of Illinois  
2010

**Member**  
National Academy of Artificial Intelligence (NAAI)  
2025

**World's AI Top Scientist**  
International Artificial Intelligence Industry Alliance (AIIA)  
2023

**Fellow**  
Asia-Pacific Artificial Intelligence Association (AAIA)  
2021

**Fellow**  
International Society for Optics and Photonics (SPIE)  
“For Specific Achievements in Morphological Image Processing and Video Analysis”  
2011

**Fellow**  
Institute of Electrical and Electronics Engineers (IEEE)  
“For Contributions to Image and Video Analysis”  
2010

**Senior Member**  
Institute of Electrical and Electronics Engineers (IEEE)  
2005

**Best Paper Award**  
C. Giulietti, D. Schonfeld, and R. Ansari  
“A Novel Cache Optimization Algorithm and Protocol  
for Video Streaming in Pure Peer-to-Peer Networks”  
ACM Multimedia Workshop on Advanced Video Streaming Techniques  
for Peer-to-Peer Networks and Social Networking  
2010

**Best Student Paper Award**  
J. Yang, D. Schonfeld and M. Mohamed  
“Robust Focused Image Estimation from Multiple Images in Video Sequences”  
*IEEE International Conference on Image Processing*  
2007

**Best Student Paper Award**  
W. Qu and D. Schonfeld

“Robust Kernel-Based Tracking Using Optimal Control”  
*IEEE International Conference on Image Processing*  
2006

**Best Student Paper Award**

N. Bouaynaya and D. Schonfeld  
“Spatially-variant morphological image processing: Theory and applications”  
*SPIE Conference on Visual Communications and Image Processing*  
2006

**Advising Award**

College of Engineering  
University of Illinois at Chicago  
2013

**Outstanding Associate Editor Award – IEEE Circuits and Systems Society**

IEEE Circuits and Systems Society  
IEEE Transactions on Circuits and Systems for Video Technology  
2009

**Most Active Chapter Award – IEEE Signal Processing Chicago Chapter Chair**

IEEE – Region 4  
2008

**Service Award – IEEE Signal Processing Chicago Chapter Chair**

IEEE – Chicago Section  
2007

**Certificate of Felicitation – Techo India University**

“In recognition of your stellar contribution in the field of Electrical Engineering & Computer Science”  
Kolkata, West Bengal, India  
2023

**Certificate of Appreciation – UL Standards & Engagement**

Technical Committee Member  
2004 – 2024

**Certificate of Appreciation – IEEE Signal Processing Society**

Chair, IEEE Signal Processing Chapter  
Chicago Section  
2006 – 2012

**Certificate of Appreciation – IEEE Circuits and Systems Society**

IEEE Circuits and Systems Society  
Prize Paper Award Subcommittee  
2010

**Certificate of Appreciation – IEEE Circuits and Systems Society**

IEEE Circuits and Systems Society  
Deputy Editor-in-Chief of the IEEE Transactions on Circuits and Systems for Video Technology

2008 – 2010

**Certificate of Appreciation – IEEE Circuits and Systems Society**

IEEE Circuits and Systems Society

Associate Editor of the IEEE Transactions on Circuits and Systems for Video Technology

2008 – 2010

**Certificate of Appreciation – IEEE Signal Processing Chicago Chapter Chair**

IEEE – Chicago Section

2006

**Top Reviewer Recognition Certificate**

IEEE International Conference on Image Processing (ICIP)

Abu Dhabi, United Arab Emirates

2020

**2018 Albert Nelson Marquis Lifetime Achievement Award**

**Marquis Who's Who**

**Who's Who in the World**

2021 Edition

**Who's Who in the World**

2020 Edition

**Who's Who in the World**

2019 Edition

**Who's Who in the World**

2018 Edition

**Worldwide Who's Who**

2014 Edition

**Who's Who in America (WWA)**

2019 Edition

**Who's Who in America (WWA)**

2012 Edition

**Who's Who in America (WWA)**

2011 Edition

**Who's Who in America (WWA)**

2010 Edition

**Who's Who in Engineering Education (WWEE)**

2002 Edition

**University Fellowship**

The Johns Hopkins University

1986—1990

## **E. IN THE NEWS**

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### **IEEE Fellow Dan Schonfeld: Helping Catch Thieves & Read Fuzzy Faxes**

**e-Scanfax: IEEE Chicago Section Newsletter**

**January 2010**

<http://www.ieeechicago.org/LinkClick.aspx?fileticket=Py81tdr4GTM%3D&tabid=390&mid=884>

### **IEEE-Chicago Fellows Provide Words of Wisdom to New IEEE Members**

**e-Scanfax: IEEE Chicago Section Newsletter**

**May 2010**

[http://www.ieeechicago.org/LinkClick.aspx?fileticket=2GIDPZnZQ\\_M%3D&tabid=390&mid=884](http://www.ieeechicago.org/LinkClick.aspx?fileticket=2GIDPZnZQ_M%3D&tabid=390&mid=884)

### **What You See, What You Get**

University Scholar Dan Schonfeld

Paul Francuch

UIC News

November 10, 2010

<http://www.uic.edu/htbin/cgiwrap/bin/uicnews/articledetail.cgi?id=14769>

### **Genomic Signal Processing May Yield Clues to Cancer Treatment**

Paul Francuch

UIC News Release

November 17, 2010

<http://tigger.uic.edu/htbin/cgiwrap/bin/newsbureau/cgi-bin/index.cgi?>

[from=Releases&to=Release&id=3073&start=1232172000&end=1329285600&topic=2&dept=64](http://tigger.uic.edu/htbin/cgiwrap/bin/newsbureau/cgi-bin/index.cgi?from=Releases&to=Release&id=3073&start=1232172000&end=1329285600&topic=2&dept=64)

### **New Camera Focuses Photos After They Are Taken**

Morgen Peck

InnovationNewsDaily Contributor

November 4, 2011

<http://www.innovationnewsdaily.com/camera-focuses-photos-after-2358/>

## **F. EDUCATION**

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**Ph.D.** July 1990

The Johns Hopkins University

Department of Electrical & Computer Engineering

Concentration: Nonlinear Signal Processing / Image Analysis

Thesis Title: “Optimal Morphological Representation and Restoration of Binary Images: Theory and Applications”

First Reader: Prof. John Goutsias; Second Reader: Prof. Victor Solo

**M.S.** May 1988

The Johns Hopkins University

Department of Electrical & Computer Engineering

Concentration: Speech Processing / Biomedical Signal Processing

Advisor: Prof. Moise H. Goldstein

**B.S.** May 1986

University of California at Berkeley

Department of Electrical Engineering & Computer Science

Concentration: Computer Engineering / Systems Engineering

Advisor: Prof. Michael J. Sabin

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## **G. WORK EXPERIENCE**

### **Professor Emeritus**

Department of Electrical & Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2024—Present

### **Director**

Manufacturing Research Center (MRC)

University-Industry Engineering Research Center (UIERC)

College of Engineering

University of Illinois at Chicago

Chicago, Illinois

2008—2011

### **Professor with Tenure**

Department of Electrical & Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2007—Present

### **Professor (Courtesy Appointment)**

Department of Computer Science

University of Illinois at Chicago

Chicago, Illinois

2007— 2025

### **Professor**

Department of Biomedical Engineering

University of Illinois at Chicago

Chicago, Illinois

2021— Present

### **Professor**

Department of Bioengineering

University of Illinois at Chicago

Chicago, Illinois

2007— 2021

### **Associate Professor with Tenure**

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2001—2007

**Associate Professor (Courtesy Appointment)**

Department of Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
2001—2007

**Associate Professor**

Department of Bioengineering  
University of Illinois at Chicago  
Chicago, Illinois  
1998—2007

**Associate Professor with Tenure**

Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1996—2001

**Co-Director**

Multimedia Communications Laboratory (MCL)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
1997—Present

**Assistant Professor**

Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1990—1996

**Member**

Signal and Image Research Laboratory (SIRL)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
1990—2002

**Instructor**

Department of Electrical and Computer Engineering  
The Johns Hopkins University  
Baltimore, Maryland  
1987—1990

**Teaching Assistant**

Department of Electrical and Computer Engineering

The Johns Hopkins University  
Baltimore, Maryland  
1986—1990

**Software Engineer**  
Computer Aided Design  
Teledyne Systems  
Northridge, California  
Summer 1984—85—86

## **H. CONSULTING EXPERIENCE**

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**Consultant & Expert Witness**  
2001—Present

**Consulting Activities:**  
Deposition and Trial Testimony  
Patent Litigation  
Copyright Litigation  
Trade Secret Litigation  
International Trade Litigation  
Customs Litigation  
Contract Litigation

**Areas of Expertise:**  
Multimedia Systems  
Multimedia Retrieval, Storage, and Communication Systems  
Image and Video Processing  
Signal Processing and Communications

**Examples of Previous Litigation Experience:**  
Audio Coding Systems  
Audio Compression Systems  
Audio Processing Systems  
Cable Systems  
Camera Systems  
Deep Learning  
Graphics Processors  
Image Coding Systems  
Image Compression Systems  
Image Processing Systems  
Internet Advertising  
Internet Streaming  
Jukebox Systems  
Machine Learning  
Medical Imaging  
Neural Networks  
Signal Processing  
Smartphones and Tablets  
Television Systems

Video-on Demand (VoD) Systems  
Video Coding Systems  
Video Compression Systems  
Video Processing Systems  
Video Storage Systems  
Video Streaming Systems  
Wireless Systems

**Companies:**

Served as a consultant and expert witness for various companies including Amazon, ARRIS, ASUS, Blackberry, Bloomberg, Broadcom, Cablevision, Cisco, Cloudflare, Dell, DISH Network, Dolby, GE, Google, GoPro, Hewlett-Packard, Huawei, Intel, Lenovo, LG Electronics, MediaTek, Microsoft, Motorola, Netflix, NVIDIA, Panasonic, Polycom, Qualcomm, Samsung, TASER, Time Warner, TiVo, Vizio, Zeiss.

**Consultant & President**

Schonfeld Consulting Corporation  
Multimedia Systems  
Northbrook, Illinois  
2017—Present

**Consultant & President**

Multimedia Systems Corporation  
Multimedia Systems  
Glenview, Illinois  
2002—2005

**Consultant**

Chicago Mercantile Exchange  
Multimedia Communication Networks  
Chicago, Illinois  
1998

**Consultant**

PrairieComm Corp.  
Multimedia Wireless Networks  
Arlington Heights, Illinois  
1997

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## **I. VISITING POSITIONS**

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**Distinguished Visiting Scholar**

Advanced Analytics Institute (AAI)  
University of Technology  
Sydney, Australia  
2012

**Visiting Professor**

Department of Information Engineering and Computer Science - DISI

University of Trento  
Trento, Italy  
May 2010

**Visiting Professor**  
School of Computer Engineering  
Nanyang Technological University  
Singapore  
July 2009

**Visiting Associate Professor**  
Department of Electrical Engineering—Systems  
Tel-Aviv University  
Tel-Aviv, Israel  
December 1996—January 1997

## **J. INTERDISCIPLINARY PROGRAMS**

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**Collaborative Neuroimaging Environment for Connectomics (CoNECT)**  
University of Illinois at Chicago  
2013—Present

**Clinical and Translational Science (CCTS)**  
Biomedical Informatics Core Consult Group  
University of Illinois at Chicago  
2009—Present

**Graduate Program in Neuroscience**  
University of Illinois at Chicago  
2001—Present

**Bioinformatics Program**  
Department of Bioengineering  
University of Illinois at Chicago  
2000—Present

## **K. PROFESSIONAL ACTIVITIES**

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### **K.1. Editorships**

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**Editor-in-Chief (EIC)**  
IEEE Transactions on Circuits and Systems for Video Technology  
2014—2017

**Deputy Editor-in-Chief (DEIC)**  
IEEE Transactions on Circuits and Systems for Video Technology  
2010—2013

**Area Editor, Special Sections**

Special Issues  
IEEE Signal Processing Magazine  
2009—2011

**Editor**

Video Search and Mining  
Studies in Computational Intelligence Series  
Springer-Verlag  
2009

**Associate Editor**

IEEE Transactions on Image Processing  
Image and Video Storage, Retrieval and Analysis  
2007—2009

**Associate Editor**

IEEE Transactions on Circuits and Systems for Video Technology  
Video Analysis  
2006—2009

**Associate Editor**

IEEE Transactions on Signal Processing  
Multidimensional Signal Processing &  
Multimedia Signal Processing  
1999—2000

**Associate Editor**

IEEE Transactions on Image Processing  
Filtering and Enhancement  
1994—1996

**Guest Editor**

IEEE Journal of Special Topics in Signal Processing  
Special Issue on Mathematical Morphology  
and Its Applications to Image and Signal Processing  
2011—2012

**Guest Editor**

IEEE Transactions on Image Processing  
Special Issue on Distributed Camera Networks:  
Sensing, Processing, Communication and Computing  
2010—2011

**Guest Editor**

EURASIP Journal on Image and Video Processing  
Special Issue on Advanced Video-Based Surveillance  
2010—2011

**Lead Guest Editor**

IEEE Journal of Special Topics in Signal Processing

Special Issue on Recent Advances in Video Processing for Consumer Displays  
2009—2011

**Guest Editor**

IEEE Transactions on Circuits and Systems for Video Technology  
Special Issue on Event Analysis in Videos  
2008

**Lead Guest Editor**

IEEE Journal of Special Topics in Signal Processing  
Special Issue on Genomic and Proteomic Signal Processing  
2007—2008

**Guest Editor**

Journal of Advances in Multimedia  
Special Issue on Plenoptic Signal and Image Processing  
2007—2008

**Advisory Board**

Bentham Books  
Bentham Science  
2021—Present

**Editorial Board**

Sensors  
MDPI  
2021—Present

**Editorial Board**

Recent Advances in Computer Science and Communications  
Bentham Science Publishers, Ltd.  
2012—2023

**Editorial Board**

Journal of Electrical and Computer Engineering  
Hindawi Publishing Corporation  
2009—2019

**Editorial Board**

EURASIP Journal of Image and Video Processing  
2009—2013

**Editorial Board**

IEEE Signal Processing Magazine  
2008—2011

**Editorial Board**

Research Letters in Signal Processing  
Hindawi Publishing Corporation  
2007—2009

**Editorial Board**

Recent Patents on Computer Science  
Bentham Science Publishers, Ltd.  
2007—2019

**Editorial Board**

Recent Patents on Electrical Engineering  
Bentham Science Publishers, Ltd.  
2007—2012

**Contributor**

Science and Technology: SPIE Newsroom  
Electronic Imaging and Signal Processing  
2005—2008

**K.2. Committees**

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**EIC Selection Standing Committee**

IEEE Circuits and Systems Society  
2025 – Present

**Official Nominator**

VinFuture Prize  
2024 – Present

**Moving Picture, Audio and Data Coding by Artificial Intelligence (MPAI)**

2020

**MPEG Future**

2020–Present

**Ad-Hoc Committee of the Conferences Board on Flagship Conferences Future Strategy**

IEEE Signal Processing Society  
2020-2021

**Ad-Hoc Committee on Multi-Scale Models at SPS Flagship Conferences**

IEEE Signal Processing Society  
2019-2020

**IEEE Signal Processing (SPS) Liaison**

IEEE Signal Processing Society  
2019-2021

**Conference Board**

IEEE Signal Processing Society  
2019-2020

**Chair**

Best Paper Award Committee  
CSVT Best Paper Award

IEEE Circuits and Systems Society  
2023

**Award Committee**

Association for Computing Machinery (ACM)  
ACM Multimedia  
2020

**Best Paper Award Selection Committee**

CSVT Best Paper Award  
IEEE Circuits and Systems Society  
2020—2021

**Best Paper Award Selection Committee**

CSVT Best Paper Award  
IEEE Circuits and Systems Society  
2019—2020

**Best Paper Award Selection Committee**

CSVT Best Paper Award  
IEEE Circuits and Systems Society  
2013

**Steering Committee**

International Association for Pattern Recognition (IAPR)  
Discrete Geometry and Mathematical Morphology (DGMM)  
2022—Present

**Travel Grant Selection Committee**

IEEE Signal Processing Society  
IEEE International Conference on Image Processing  
2011

**Steering Committee**

International Society of Mathematical Morphology (ISMM)  
International Symposium on Mathematical Morphology (ISMM)  
2011—Present

**Advisory Committee**

IEEE Circuits and Systems Society  
Visual Signal Processing and Communication (VSPC) Technical Committee  
IEEE Conference on Visual Communications and Image Processing (VCIP)  
2010— Present

**Steering Committee**

SPIE and IEEE Circuits and Systems Society  
Conference on Visual Communications and Image Processing  
2008—2010

**Scientific Advisory Board**

World Congress of NeuroTalk

From Nervous Functions to Treatment  
Singapore Expo, Singapore  
2010

**Chair**

Nominations and Elections Subcommittee  
Image, Video, and Multidimensional Signal Processing (IVMSP) Technical Committee  
IEEE Signal Processing Society  
2010— 2011

**Honorable Member**

Visual Signal Processing and Communications (VSPC) Technical Committee  
IEEE Circuits and Systems Society  
2018— Present

**Member**

Visual Signal Processing and Communications (VSPC) Technical Committee  
IEEE Circuits and Systems Society  
2015— 2019

**Associate Member**

Image, Video, and Multidimensional Signal Processing (IVMSP) Technical Committee  
IEEE Signal Processing Society  
2014— Present

**Member**

IEEE Multimedia Communications Technical Committee (MMTC) Technical Committee  
IEEE Communications Society  
2009— Present

**Member**

Image, Video, and Multidimensional Signal Processing (IVMSP) Technical Committee  
IEEE Signal Processing Society  
2009— 2012

**Member**

Image and Multidimensional Signal Processing (IMDSP) Technical Committee  
IEEE Signal Processing Society  
2007—2008

**Member**

Signal and Image Processing in Medicine Technical Committee  
IEEE Circuits and Systems Society  
1990—1996

**Member**

P2P Communication and Networking Technical Subcommittee  
Multimedia Communications Technical Committee  
IEEE Communications Society  
2006—Present

**Representative**

Regions 1-6 (North America)  
Chapters Committee  
IEEE Signal Processing Society  
2006—2012

**Chairman**

Chicago IEEE Signal Processing Chapter  
2006—2012

**Member**

American National Standards Institute/Underwriters Laboratory (ANSI/UL)  
Standards Technical Panels (STP)

**STP 1309: Marine Shipboard Cable**

UL 1309: Standard for Marine Shipboard Cable  
UL 1309A: Standard, Cable for Use in Mobile Installations

**STP 1863: Communications-Circuit Accessories**

UL 1863: Standard for Communications-Circuit Accessories

**STP 6065: Audio, Video And Similar Electronic Apparatus - Safety Requirements**

UL 150: Standard for Antenna Rotators  
UL 452: Standard for Antenna – Discharge Units  
UL 469: Standard for Musical Instruments and Accessories  
UL 813: Standard for Commercial Audio Equipment  
UL 1412: Standard for Fusing Resistors and Temperature-Limited Resistors for Radio- and Television-Type Appliances  
UL 1413: Standard for High-Voltage Components for Television-Type Appliances  
UL 1416: Standard for Overcurrent and Overtemperature Protectors for Radio- and Television-Type Appliances  
UL 1417: Standard for Special Fuses for Radio- and Television-Type Appliances  
UL 1492: Audio/Video Products and Accessories  
UL 1676: Standard for Conductive-Path and Discharge-Path Resistors for Use in Radio-, Video-, or Television-Type Appliances  
UL 6500: Standard for Audio/Video and Musical Instrument Apparatus for Household, Commercial, and Similar General Use  
UL 60065: Standard for Audio, Video and Similar Electronic Apparatus – Safety Requirements

**STP 6268: Audio/Video, Information Technology, And Communication Technology Equipment**

UL 62368: Audio/video, Information and Communication Technology Equipment

**STP 9990: Information and Communication Technology (ICT) Cables**

UL 9990: Standard for Safety for Information and Communication Technology (ICT) Power Cables

2002—Present

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**K.3. Review Panels****Member**

Expert Panel  
Faculty of Computing and Electrical Engineering  
Tampere University of Technology (TUT)

Tampere, Finland  
2011

**Member**

Paper Award Committee  
IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)  
Genoa, Italy  
2009

**Member**

Technical Jury  
NTT DoCoMo USA Labs Most Innovative Paper Awards  
IEEE International Conference on Image Processing  
San Diego, California  
2008

**Member**

Technical Jury  
NTT DoCoMo USA Labs Most Innovative Paper Awards  
IEEE International Conference on Image Processing  
San Antonio, Texas  
2007

**Member**

Technical Jury  
NTT DoCoMo USA Labs Most Innovative Paper Awards  
IEEE International Conference on Image Processing  
Atlanta, Georgia  
2006

**Member**

NSF Review Panel  
Computer & Information Science & Engineering (CISE)  
Computing and Communication Foundations (CCF)  
Image and Multi-Dimensional Signal Processing (IMDSP)  
2015

**Member**

NSF Review Panel  
Computer & Information Science & Engineering (CISE)  
Computing and Communication Foundations (CCF)  
Communications and Information Foundations (CIF)  
2012

**Member**

NSF Review Panel  
Computer & Information Science & Engineering (CISE)  
Computing and Communication Foundations (CCF)  
Communications and Information Foundations (CIF)  
2011

**Member**

NSF Review Panel  
Computer & Information Science & Engineering (CISE)  
Information & Intelligent Systems (IIS)  
Databases and Data Mining (DB/DM)  
2007

**Member**

NSF Review Panel  
Small Business Innovation Research (SBIR) Program  
Robotics II  
Phase II  
2007

**Member**

NSF Review Panel  
Computer & Information Science & Engineering (CISE)  
Information & Intelligent Systems (IIS)  
Information Management (IM)  
2006

**Member**

NSF Review Panel  
Computer & Information Science & Engineering (CISE)  
Information & Intelligent Systems (IIS)  
Information & Knowledge Management (IKM)  
2005

**Member**

NSF Review Panel  
Small Business Innovation Research (SBIR) Program  
Robotics II  
Phase I  
2005

**Member**

NSF Review Panel  
Computer & Information Science & Engineering (CISE)  
Advanced Networking Infrastructure and Research (ANIR)  
Information Technology Research (ITR)  
Networking Research  
Small Grants  
2002

**Member**

NSF Review Panel  
Small Business Innovation Research (SBIR) Program  
Diagnostic Systems and Signal Processing  
Phase I  
2002

**Member**

NSF Review Panel  
Computer & Information Science & Engineering (CISE)  
Information Technology Research (ITR)  
Biology & Information Technology  
Computational Biology / Biocomputation  
Medium Grants  
2003

**K.4. Conference Chair**

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**General Chair**

International Conference on Internet Multimedia Computing and Service (ICIMCS)  
Nanjing, China  
2018

**Technical Program Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)  
Calgary, Canada  
2018

**General Co-Chair**

IEEE Conference on Visual Communications and Image Processing (VCIP)  
Chengdu, China  
2016

**Program Co-Chair**

IEEE Conference on Visual Communications and Image Processing (VCIP)  
Singapore  
2015

**General Co-Chair**

Workshop on Big Data in 3D Computer Vision  
Held in conjunction with the IEEE International Conference on Computer Vision (ICCV)  
Melbourne, Australia  
2013

**General Co-Chair**

IEEE International Conference on Multimedia and Expo (ICME)  
Melbourne, Australia  
2012

**Technical Program Chair**

IEEE International Workshop on Genomic Signal Processing and Statistics (GENSIPS)  
Minneapolis, Minnesota  
2009

**Chair**

Workshop on Video Mining  
IEEE International Conference on Data Mining

Held in conjunction with the IEEE International Conference on Data Mining (ICDM)  
Pisa, Italy  
2008

**Chair**

SPIE International Conference on Visual Communications and Image Processing (VCIP)  
San Jose, California  
2007

**Multimedia Content Analysis Track Chair**

IEEE International Conference on Multimedia and Expo  
New York, New York  
2009

**Technical Program Committee / Area Chair**

IEEE International Conference on Image Processing  
San Diego, California  
2008

**Technical Program Committee / Area Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing  
Las Vegas, Nevada  
2008

**Technical Program Committee / Area Chair**

IEEE International Conference on Image Processing  
San Antonio, Texas  
2007

**Associate Program Chair**

ACM Multimedia  
Juan Les Pins, France  
2002

## **K.5. Organizing Committees**

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**Special Sessions Co-Chair**

IEEE International Conference on Image Processing (ICIP)  
Abu Dhabi, United Arab Emirates  
2024

**Special Sessions Co-Chair**

IEEE International Conference on Image Processing (ICIP)  
Abu Dhabi, United Arab Emirates  
2020

**Technical Program Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)  
Calgary, Canada  
2018

**Plenary Co-Chair**

IEEE Conference on Visual Communications and Image Processing (VCIP)  
St. Petersburg, Florida  
2017

**General Co-Chair**

IEEE Conference on Visual Communications and Image Processing (VCIP)  
Chengdu, China  
2016

**Program Co-Chair**

IEEE Conference on Visual Communications and Image Processing (VCIP)  
Singapore  
2015

**General Co-Chair**

Workshop on Big Data in 3D Computer Vision  
Held in conjunction with the IEEE International Conference on Computer Vision (ICCV)  
Melbourne, Australia  
2013

**General Co-Chair**

IEEE International Conference on Multimedia and Expo (ICME)  
Melbourne, Australia  
2012

**Plenary Chair**

IEEE International Conference on Image Processing (ICIP)  
Orlando, Florida  
2012

**Publications Chair**

IEEE Conference on Advanced Video and Signal-based Surveillance (AVSS)  
Beijing, China  
2012

**USA Liaison Chair**

IEEE Conference on Advanced Video and Signal-based Surveillance (AVSS)  
Klagenfurt, Austria  
2011

**Publicity Co-Chair**

IEEE/SPIE International Conference on Visual Communications and Image Processing (VCIP)  
Huang Shan, An Hui, China  
2010

**Technical Program Chair**

IEEE International Workshop on Genomic Signal Processing and Statistics (GENSIPS)  
Minneapolis, Minnesota  
2009

**Organizer**

IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)  
Thematic Symposium on Multimedia Search and Retrieval  
Taipei, Taiwan  
2009

**Chair**

Workshop on Video Mining  
Held in conjunction with the IEEE International Conference on Data Mining (ICDM)  
Pisa, Italy  
2008

**Chair**

SPIE International Conference on Visual Communications and Image Processing (VCIP)  
San Jose, California  
2007

**Technical Organizing Committee**

IS&T/SPIE Annual Symposium on Electronic Imaging: Science and Technology  
San Jose, California  
2007

**Publications Chair**

IEEE International Conference on Image Processing  
Chicago, Illinois  
1998

**Plenary Talks and Special Session Chair**

IEEE/EURASIP Workshop on Nonlinear Signal and Image Processing  
Mackinac Island, Michigan  
1997

**K.6. Technical Program Committees**

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**Technical Program Committee**

SPIE Conference on Video Surveillance and Transportation Imaging  
San Francisco, California  
2015

**Technical Program Committee**

SPIE Conference on Video Surveillance and Transportation Imaging  
San Francisco, California  
2014

**Program Committee**

IEEE International Conference on Automatic Face and Gesture Recognition (FG 2013)  
Shanghai, China  
2013

**Technical Program Committee**

SPIE Conference on Video Surveillance and Transportation Imaging  
San Francisco, California  
2013

**Technical Program Committee**

SPIE Conference on Visual Information Processing and Communication  
San Francisco, California  
2013

**Technical Program Committee**

ICST International Conference on  
Wireless Mobile Communication and Healthcare (MobiHealth)  
Paris, France  
2012

**Technical Program Committee**

SPIE Conference on Visual Information Processing and Communication  
San Francisco, California  
2012

**Program Committee**

International Workshop on Video Event Categorization, Tagging and Retrieval (VECTaR)  
Held in conjunction with the International Conference on Computer Vision  
Barcelona, Spain  
2011

**Technical Program Committee**

ICST International Conference on  
Wireless Mobile Communication and Healthcare (MobiHealth)  
Kos Island, Greece  
2011

**Technical Program Committee**

SPIE Conference on Visual Information Processing and Communication  
San Francisco, California  
2011

**Technical Program Committee**

IEEE International Workshop on Genomic Signal Processing and Statistics  
Cold Spring Harbor Laboratory, New York  
2010

**Technical Program Committee**

IEEE International Conference on Multimedia and Expo (ICME)  
Singapore  
2010

**Technical Program Committee**

International Conference on Pattern Recognition (ICPR)  
Track I: Computer Vision

Istanbul, Turkey  
2010

**Technical Program Committee**

ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)  
Atlanta, Georgia  
2010

**Technical Program Committee**

IEEE Workshop on Multimedia Computing and Communications (MCC)  
Held in conjunction with the International Conference on Computer Communications and Networks (ICCCN)  
Zurich, Switzerland  
2010

**Program Committee**

ACM International Conference on Bioinformatics and Computational Biology (ACM-BCB)  
Niagara Falls, New York  
2010

**Technical Program Committee**

IEEE/SPIE International Conference on Visual Communications and Image Processing  
Huang Shan, An Hui, China  
2010

**Technical Program Committee**

ICST International Conference on  
Wireless Mobile Communication and Healthcare (MobiHealth)  
Ayia Napa, Cyprus  
2010

**Technical Program Committee**

SPIE International Conference on Visual Information Processing and Communications  
San Jose, California  
2010

**Program Committee**

International Workshop on Video Event Categorization, Tagging and Retrieval (VECTaR)  
Held in conjunction with the Asian Conference on Computer Vision  
Xi'an, China  
2009

**Program Committee**

IEEE International Workshop on Video-Oriented Object and Event Classification (VOEC)  
Held in conjunction with the International Conference on Computer Vision (ICCV)  
Kyoto, Japan  
2009

**Program Committee / Reviewer**

IEEE International Conference on Computer Vision  
Kyoto, Japan

2009

**Technical Program Committee**

IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)  
Genoa, Italy  
2009

**Technical Program Committee**

IEEE Workshop on Multimedia Computing and Communications (MCC)  
Held in conjunction with the International Conference on Computer Communications and Networks (ICCCN)  
San Francisco, California  
2009

**Technical Program Committee**

International Conference on Image and Graphics  
Xi'an, China  
2009

**Program Committee**

International Conference on Advances in Multimedia (MMEDIA)  
Colmar, France  
2009

**Technical Program Committee**

IEEE International Workshop on Computational Advances  
in Multi-Sensor Adaptive Processing (CAMSAP)  
Dominican Republic  
2009

**Technical Program Committee**

SPIE International Conference on Visual Communications and Image Processing  
San Jose, California  
2009

**Technical Program Committee / Reviewer**

IEEE International Conference on Image Processing  
San Diego, California  
2008

**Program Committee**

IEEE Conference on Computer Vision and Pattern Recognition  
Anchorage, Alaska  
2008

**Technical Program Committee / Reviewer**

IEEE International Conference on Acoustics, Speech, and Signal Processing  
Las Vegas, Nevada  
2008

**Technical Program Committee**

IEEE International Workshop on Genomic Signal Processing and Statistics  
Phoenix, Arizona  
2008

**Technical Program Committee**  
International Workshop on Multimedia Analysis & Processing (IMAP)  
U.S. Virgin Islands  
2008

**Technical Program Committee**  
SPIE International Conference on Visual Communications and Image Processing  
San Jose, California  
2008

**Program Committee**  
IEEE International Conference on Computer Vision  
Rio de Janeiro, Brazil  
2007

**Technical Program Committee / Reviewer**  
IEEE International Conference on Image Processing  
San Antonio, Texas  
2007

**Technical Program Committee**  
IEEE International Workshop on Genomic Signal Processing and Statistics  
Tuusula, Finland  
2007

**Technical Program Committee**  
SPIE International Conference on Visual Communications and Image Processing  
San Jose, California  
2007

**Technical Program Committee**  
IEEE International Conference on Image Processing  
Atlanta, Georgia  
2006

**Technical Program Committee**  
IEEE International Workshop on Genomic Signal Processing and Statistics  
College Station, Texas  
2006

**Technical Program Committee**  
SPIE International Conference on Visual Communications and Image Processing  
San Jose, California  
2006

**Technical Program Committee / Reviewer**  
IEEE International Conference on Acoustics, Speech, and Signal Processing

Toulouse, France  
2006

**Technical Program Committee**  
IEEE International Conference on Image Processing  
Genova, Italy  
2005

**Technical Program Committee / Reviewer**  
IEEE International Conference on Acoustics, Speech, and Signal Processing  
Philadelphia, Pennsylvania  
2005

**Technical Program Committee**  
IEEE International Conference on Image Processing  
Singapore  
2004

**Technical Program Committee**  
IEEE International Conference on Image Processing  
Barcelona, Spain  
2003

**Technical Program Committee**  
IEEE International Conference on Image Processing  
Rochester, New York  
2002

**Technical Program Committee**  
IEEE International Conference on Image Processing  
Thessaloniki, Greece  
2001

**Technical Program Committee**  
IEEE International Conference on Image Processing  
Vancouver, Canada  
2000

**Technical Program Committee**  
IEEE International Conference on Image Processing  
Kobe, Japan  
1999

**Technical Program Committee**  
IEEE International Conference on Image Processing  
Chicago, Illinois  
1998

**Technical Program Committee**  
International Symposium on Mathematical Morphology  
Amsterdam, The Netherlands

1998

**Technical Program Committee**

SPIE International Conference on Visual Communications and Image Processing  
San Jose, California  
1998

**Technical Program Committee**

SPIE International Conference on Visual Communications and Image Processing  
San Jose, California  
1997

**Technical Program Committee**

SPIE International Conference on Visual Communications and Image Processing  
Orlando, Florida  
1996

**Technical Program Committee**

IEEE International Conference on Image Processing  
Austin, Texas  
1994

**Technical Program Committee**

IEEE International Symposium on Circuits and Systems  
Chicago, Illinois  
1993

## **K.7. Session Organizer**

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**Chair**

IEEE International Conference on Image Processing  
Special Session on Face Recognition II  
Orlando, Florida  
2012

**Organizer and Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing  
Special Session on Video Search and Event Analysis  
Taipei, Taiwan  
2009

**Organizer**

Workshop on Global Multimedia Mobile Communications  
University of Illinois at Chicago  
Chicago, Illinois  
2005

**Organizer and Chair**

IEEE International Conference on Image Processing  
Special Session on Nonlinear Filtering

Austin, Texas  
1994

**Organizer and Chair**

IEEE International Symposium on Circuits and Systems  
Special Session on Medical Image and Signal Processing  
Singapore  
1991

**Organizer and Chair**

Conference on Information Sciences and Systems  
Session on Nonlinear Image and Signal Processing I  
Baltimore, Maryland  
1991

**K.8. Session Chair**

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**Chair**

IEEE International Conference on Image Processing  
Session on Defect Removal  
Taipei, Taiwan  
2019

**Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing  
Session on Stereoscopic and 3D Processing  
Brighton, United Kingdom  
2019

**Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing  
Session on Image and Video Indexing and Retrieval  
Prague, Czech Republic  
2011

**Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing  
Session on Image/Video Semantic Understanding  
Dallas, Texas  
2010

**Chair**

IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)  
Session on Trajectory Analysis and Learning  
Genoa, Italy  
2009

**Chair**

IEEE International Conference on Multimedia and Expo  
Session on Multimedia Content Analysis and Synthesis IV

New York, New York  
2009

**Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing  
Session on Stereoscopic and 3-D Processing  
Taipei, Taiwan  
2009

**Chair**

IEEE International Conference on Image Processing  
Session on Enhancement and Denoising II  
San Diego, California  
2008

**Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing  
Session on Restoration and Enhancement  
Las Vegas, Nevada  
2008

**Chair**

SPIE Electronic Imaging Conference on Visual Communications and Image Processing  
Session on Image Processing  
San Jose, California  
2008

**Chair**

IEEE International Conference on Image Processing  
Session on Image and Video Restoration and Enhancement I  
San Antonio, Texas  
2007

**Chair**

IEEE International Conference on Image Processing  
Session on Image and Video Filtering  
Atlanta, Georgia  
2006

**Chair**

IEEE International Conference on Multimedia and Expo  
Session on Media Signal Processing  
Toronto, Canada  
2006

**Chair**

IEEE International Conference on Multimedia and Expo  
Session on Multimedia Database Applications  
Toronto, Canada  
2006

**Chair**

IEEE International Conference on Multimedia and Expo  
Session on Peer-to-Peer Multimedia Streaming  
Toronto, Canada  
2006

**Chair**

SPIE Electronic Imaging Conference on Visual Communications and Image Processing  
Session on Computer Vision  
San Jose, California  
2006

**Chair**

IEEE International Conference on Acoustics, Speech, and Signal Processing  
Session on Video Segmentation and Tracking  
Philadelphia, Pennsylvania  
2005

**Chair**

SPIE Electronic Imaging Conference on Image and Video Communications and Processing  
Session on Selective Encryption for Image/Video  
San Jose, California  
2005

**Chair**

SPIE Electronic Imaging Conference on Image and Video Communications and Processing  
Session on Object Tracking  
San Jose, California  
2005

**Chair**

INPT/ASME International Conference on Communications, Signals and Systems  
Session on Signals and Data  
Rabat, Morocco  
2001

**Chair**

SPIE Conference on Multimedia Storage and Archiving Systems III  
Session on Video Segmentation  
Boston, Massachusetts  
1998

**Chair**

IEEE International Conference on Image Processing  
Session on Image Sequence Segmentation  
Chicago, Illinois  
1998

**Chair**

International Symposium on Mathematical Morphology  
Session on Theory

Atlanta, Georgia  
1996

**Chair**

INPT/ASME International Conference on Communications, Signals and Systems  
Session on Signals and Data  
Rabat, Morocco  
1995

**Chair**

IEEE Workshop on Nonlinear Signal and Image Processing  
Session on Mathematical Morphology and Fuzzy DSP  
Neos Marmaras, Halkidiki, Greece  
1995

**Chair**

IEEE International Conference on Image Processing  
Session on Shape Representation and Image Modeling  
Austin, Texas  
1994

**Chair**

SPIE Conference on Visual Communications and Image Processing  
Session on Mathematical Morphology  
Boston, Massachusetts  
1992

**Chair**

Conference on Information Sciences and Systems  
Session on Signal Representation, Modeling, and Analysis  
Baltimore, Maryland  
1991

## **K.9. Panelist and Participant**

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**Panelist**

DOD Tri-Service Workshop on Stochastic Methods in Image Analysis  
Session on Mathematical Morphology  
U.S. Army Harry Diamond Laboratories  
Adelphi, Maryland  
1992

**Participant**

Institute for Mathematics and its Applications (IMA)  
Workshop on Large Data Sets in Medical Informatics  
Minneapolis, Minnesota  
2011

**Participant**

NSF Workshop on Improving Domestic Student Participation

in Electrical and Computer Engineering Graduate Programs  
University of Tennessee  
Knoxville, Tennessee  
2009

**Participant**

Workshop on Global Multimedia Mobile Communications  
University of Illinois at Chicago  
Chicago, Illinois  
2005

**Participant**

Workshop on Extraction of Visual Information by Biological and Non-Biological Systems  
University of Illinois at Chicago  
Chicago, Illinois  
2002

**Participant**

Workshop on Multimedia Information Systems  
Capri, Italy  
2001

**Participant**

NSF Advanced Networking Infrastructure Support  
National Workshop on Developing Guidance  
Research Competitiveness Program  
Washington, D.C.  
1999

**Participant**

Institute for Mathematics and its Applications (IMA)  
Workshop on Applications and Theory of Random Sets  
Minneapolis, Minnesota  
1996

**Panelist**

VCIP 2015 Panel Discussion: What's Next in Visual Communications and Image Processing?  
IEEE Conference on Visual Communications and Image Processing (VCIP)  
Singapore  
2015

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## **K.10. Outreach Activities**

**Judge**

Region 6 Science Fair Paper Session  
Illinois Junior Academy of Science  
Stevenson High School  
Lincolnshire, Illinois  
2022

**Judge**  
State Science Fair Poster Session  
Illinois Junior Academy of Science  
Peoria Civic Center  
Peoria, Illinois  
2022

## L. PUBLICATIONS

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### L.1. Thesis

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- [1] D. Schonfeld, *Optimal Morphological Representation and Restoration of Binary Images: Theory and Applications*. Department of Electrical and Computer Engineering, The Johns Hopkins University, Baltimore, Maryland, 1990.

### L.2. Books

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- [1] C.-W. Chen, D. Schonfeld, and J. Liu, (Eds.), *Proceedings of the SPIE/IS&T International Conference on Visual Communications and Image Processing*. SPIE Press, 2007.
- [2] D. Schonfeld, C. Shan, D. Tao, and L. Wang, (Eds.), *Video Search and Mining*. Studies in Computational Intelligence Series, Springer-Verlag, 2010.

### L.3. Book Chapters

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- [1] M. Charif-Chefchaoui and D. Schonfeld, "Spatially-Variant Mathematical Morphology: Minimal Basis Representation," *Mathematical Morphology and Its Applications to Image and Signal Processing*. P. Maragos, R.W. Schafer, and M.K. Butt, (ed.), pp. 49-56, Kluwer Academic Publishers: Boston, Massachusetts, 1996.
- [2] D. Schonfeld, "Weighted Composite Order-Statistics Filters: Optimal Morphological Pattern Recognition," *Mathematical Morphology and Its Applications to Image and Signal Processing*. P. Maragos, R.W. Schafer, and M.K. Butt, (ed.), pp. 163-170, Kluwer Academic Publishers: Boston, Massachusetts, 1996.
- [3] D. Schonfeld, "Image and Video Communication Networks," (**Invited Chapter**). *Handbook of Image and Video Processing*. A. Bovik (ed.), Academic Press: San Diego, California, Chapter 9.3, pp. 717-732, 2000.
- [4] D. Lelescu and D. Schonfeld, "Video skimming and summarization based on principal component analysis," *Management of Multimedia on the Internet*, Lecture Notes in Computer Science, E.S. Al-Shaer and G. Pacifici (Eds.), Springer-Verlag, pp. 128-141, 2001.
- [5] F. Bashir, S. Khanvilkar, A. Khokhar, and D. Schonfeld, "Multimedia systems: Content based indexing and retrieval," (**Invited Chapter**). *Electrical Engineering Handbook*. W-K. Chen (ed.), Academic Press: San Diego, California, pp. 379-400, 2004.

- [6] S. Khanvilkar, F. Bashir, D. Schonfeld, and A. Khokhar, “Multimedia networks and communication,” **(Invited Chapter)**. *Electrical Engineering Handbook*. W-K. Chen (ed.), Academic Press: San Diego, California, pp. 401-425, 2004.
- [7] D. Schonfeld, “Video Communication Networks,” **(Invited Chapter)**. *Handbook of Image and Video Processing. Second Edition*. A. Bovik (ed.), Academic Press: San Diego, California, Chapter 9.3, pp. 1031-1064, 2005.
- [8] D. Schonfeld, “Video Communication Networks,” **(Invited Chapter)**. *The Essential Guide to Video Processing*. A. Bovik (ed.), Elsevier: Chennai, India, Chapter 16, pp. 473-526, 2009.
- [9] X. Ma, X. Chen, A. Khokhar, and D. Schonfeld, “Motion trajectory-based video retrieval, classification, and summarization,” *Video Search and Mining*. Studies in Computational Intelligence Series, Springer-Verlag, pp. 53-82, 2010.
- [10] J. J. GadElkarim, D. Schonfeld, O. Ajilore, L. Zhan, A. Zhang, J.D. Feusner, P. M. Thompson, T. J. Simon, A. Kumar, and A. D. Leow, “A framework for quantifying node-level community structure group differences in brain connectivity networks,” *Medical Image Computing and Computer-Assisted Intervention – MICCAI, Lecture Notes in Computer Science*. Vol. 7511, pp. 196-203, 2012.
- [11] N. Bouaynaya, R. Shterenberg, D. Schonfeld, and H. M. Fathallah-Shaykh, “Intervention and Control of Gene Regulatory Networks: Theoretical Framework and Application to Human Melanoma Gene Regulation,” F. Emmert-Streib, and M. Dehmer, Matthias (eds.), *Statistical Diagnostics for Cancer: Analyzing High-Dimensional Data*. Wiley-VCH, Quantitative and Network Biology, 2013.
- [12] S. Friedland, Q. Li, D. Schonfeld, and E. A. Bernal, “Two algorithms for compressed sensing of sparse tensors,” Boche H., Calderbank R., Kutyniok G., Vybíral J. (eds.), *Compressed Sensing and its Applications*. Springer-Verlag, pp. 259-281, 2015.
- [13] I. Fortel, M. Butler, L. E. Korthauer, L. Zhan, O. Ajilore, I. Driscoll, A. Sidiropoulos, Y. Zhang, L. Guo, H. Huang, D. Schonfeld, and A. Leow, “Brain dynamics through the lens of statistical mechanics by unifying structure and function,” *Medical Image Computing and Computer-Assisted Intervention – MICCAI, Lecture Notes in Computer Science 11768*. (D. Shen et al., Eds.). Springer Nature Switzerland AG, pp. 503-511, 2019.

#### **L.4. Journal Editorials**

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- [1] D. Schonfeld, J. Goutsias, I. Shmulevich, I. Tabus, and A.H. Tewfik, “Introduction to the issue on genomic and proteomic signal processing,” *IEEE Journal of Selected Topics in Signal Processing*, Special Issue on Genomic and Proteomic Signal Processing, vol. 2, pp. 257-260, 2008.
- [2] S.-F. Chang, J. Luo, S. Maybank, D. Schonfeld, and D. Xu, “An Introduction to the special issue on event analysis in videos,” *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 18, pp. 1469-1472, 2008.
- [3] D. Schonfeld, “Perspectives on special issues,” *IEEE Signal Processing Magazine*, vol. 26, issue 5, 2009.

- [4] D. Schonfeld, "The evolution of signal processing," *IEEE Signal Processing Magazine*, vol. 27, issue 5, 2010.
- [5] R. Chellappa, W. Heinzelman, J. Konrad, D. Schonfeld, and M. Wolf, "Introduction to Special Section on Distributed Camera Networks: Sensing, Processing, Communication, and Implementation," Special Section on Distributed Camera Networks: Sensing, Processing, Communication, and Implementation, *IEEE Transactions on Image Processing*, vol. 19, pp. 2513-2515, 2010.
- [6] D. Schonfeld, J. Biemond, G. de Haan, and A. Kaup, "Introduction to the issue on recent advances in video processing for consumer displays," *IEEE Journal of Selected Topics in Signal Processing*, Special Issue on Recent Advances in Video Processing for Consumer Displays, vol. 5, pp. 213-216, 2011.
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- [177] M.M. Karaman, G. Dan, L. Sha, T. Shi, W. Li, D. Schonfeld, T. Valyi-Nagy, and X.J. Zhou. “Looking inside a voxel through the lenses of non-Gaussian diffusion MRI: Correlation between imaging- and histology-based tissue heterogeneity,” *Proceedings of the 29th Annual Meeting of the International Society of Magnetic Resonance Imaging in Medicine (ISMRM)*, Vancouver, British Columbia, Canada, 2021.
- [178] M. Liu, D. Schonfeld, and W. Tang, “Exploit visual dependency relations for semantic segmentation,” *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
- [179] D. Aggarwal, M. Zafar, D. Schonfeld, K. Avanaki, “Deep learning-boosted photoacoustic microscopy with an extremely low energy laser,” *Proceedings of the SPIE BiOS Symposium Conference on Photons Plus Ultrasound: Imaging and Sensing*, San Francisco, California, 2022.
- [180] D. Aggarwal, M. Zafar, T. Islam, D. Schonfeld, R. Manwar, and K. Avanaki, “E-Unet: a deep learning method for photoacoustic signal enhancement,” *Proceedings of the SPIE BiOS Symposium Conference on Photons Plus Ultrasound: Imaging and Sensing*, San Francisco, California, 2023.
- [181] L. Saint-Martin, D. Aggarwal, R. Manwar, D. Schonfeld, and K. Avanaki, “Relationship between skull phantoms physical characteristics and acoustic wave signal features,” *Proceedings of the SPIE BiOS Symposium Conference on Photons Plus Ultrasound: Imaging and Sensing*, San Francisco, California, 2023.
- [182] M.M. Karaman, S. Maraka, T. Valyi-Nagy, S. Khalid, K. Slavin, G. Atwal, A. Daher, G. Dan, A. Scotti, Schonfeld, and X.J. Zhou, “Establishing a correlation between diffusion heterogeneity and tissue structural heterogeneity using stereotactic biopsies on brain tumors,” *Proceedings of the Annual Meeting of the International Society of Magnetic Resonance Imaging in Medicine (ISMRM)*, Toronto, Ontario, Canada, 2023.
- [183] D. Aggarwal, T. Islam M. Zafar, T. Islam, D. Schonfeld, and K. Avanaki, “Signal denoising for thermal acoustic imaging,” *Proceedings of the SPIE BiOS Symposium Conference on Photons Plus Ultrasound: Imaging and Sensing*, San Francisco, California, 2024.
- [184] D. Aggarwal and D. Schonfeld, “An efficient weight-combination algorithm for merging trained image recognition deep learning networks,” *IEEE International Conference on Image Processing*, Abu Dhabi, United Arab Emirates, 2024, submitted.

## L.7. Presentations

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- [1] N. Bouaynaya and D. Schonfeld, "Protein communication channel: Analysis of proteomics and genomics based on signal processing and communication," *The Fourth Annual Chicago Biomedical Consortium Symposium*, Chicago, Illinois, 2006.
- [2] N. Bouaynaya and D. Schonfeld, "Protein communication channel: Analysis of proteomics and genomics based on signal processing and communication," *Biomedical Informatics Workshop*, Chicago, Illinois, 2006.
- [3] M. Dutta, D. Schonfeld, S. Liao, and M. Stroschio, "Quantum Dot Blinking: Physical Limit for Nanoscale Optoelectronic Device," *International Workshop of Computational Electronics*, Amherst, Massachusetts, 2007.
- [4] C. Chen and D. Schonfeld, "Spectral analysis of unstructured plenoptic sampling," *Illinois Computer Vision Workshop*, Toyota Technological Institute at Chicago, Chicago, Illinois, 2009.
- [5] S. Zhao, D. Tuninetti, R. Ansari, and D. Schonfeld, "On the distortion exponent of block-fading Gaussian channels," *Proceedings of the Information Theory and Applications Workshop*, San Diego, California, 2010.
- [6] N. Bouaynaya and D. Schonfeld, "Inverse perturbation for optimal intervention in genetic regulatory networks," *Institute for Mathematics and its Applications (IMA) Workshop on Large Data Sets in Medical Informatics*, Minneapolis, Minnesota, 2011.
- [7] N. Bouaynaya and D. Schonfeld, "Intervention and control of large-scale gene regulatory networks," *Institute for Mathematics and its Applications (IMA) Workshop on Large Data Sets in Medical Informatics*, Minneapolis, Minnesota, 2011.
- [8] J. J. GadElkarim, D. Schonfeld, O. Adjilore, A. Kumar, P. M. Thompson, and A. D. Leow, "Partition the human brain with binary trees using simulated annealing," *Annual Meeting of the Organization for Human Brain Mapping (OHBM)*, Beijing, China, 2012.
- [9] Q. Li, D. Schonfeld, and S. Friedland, "Generalized tensor compressive sensing," *Matheon-Workshop Compressed sensing and its Applications*, (Invited Lecture), Berlin, Germany, 2013.
- [10] C. Agarwal, E. Schonfeld, D. Schonfeld, B. Mokhlesi, and B. Prasad, "Predicting blood pressure response to sleep apnea treatment," *IEEE International Conference on Biomedical and Health Informatics (BHI)*, Chicago, Illinois, 2019.
- [11] C. Agarwal, I. Imayama, E. Schonfeld, D. Schonfeld, B. Mokhlesi, and B. Prasad, "Prediction of acute blood pressure response to obstructive apneas and hypopneas using routine polysomnography data," *International Conference on Sleep & Breathing*, Tampere, Finland, 2019.
- [12] D. Aggrawal, A. Torniaainen, T. Khan, T. Nguyen, D. Carley, D. Schonfeld, and B. Prasad, "Machine learning model predicts daytime alertness impairment in OSA using clinical polysomnography," **(Honorable Mention)**, *College of Medicine Research Forum*, University of Illinois at Chicago, Chicago, Illinois, 2023.

- [13] B. Prasad, D. Aggrawal, A. Ghanem, E. Herrera-Ojeda, A. Gavanescu, N. Esmaili, A. Azarbarzin, and D. Schonfeld, “Apnea Pressure Spike Index: Identifying OSA Specific Effect On Nocturnal Blood Pressure,” ATS International Conference, San Francisco, California, 2025.

## L.8. Patents

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- [1] D. Schonfeld, K. Hariharakrishnan, P. Raffy, and F. Yassa, “Object tracking using adaptive block-size matching along object-boundary and frame skipping when object motion is low,” U.S. Patent No. 7095786, Patent Issued August 28, 2006.
- [2] D. Schonfeld, K. Hariharakrishnan, P. Raffy, and F. Yassa, “Occlusion/disocclusion detection using K-means clustering near object boundary with comparison of average motion of clusters to object and background motions,” U.S. Patent No. 7142600, Patent Issued November 28, 2006.
- [3] W. Qu, D. Schonfeld, and M. Mohamed, “Method and Apparatus to Disambiguate State Information for Multiple Items Tracking,” Patent Application, Filed October 13, 2006.
- [4] W. Qu, D. Schonfeld, and M. Mohamed, “Method and Apparatus to facilitate use of conditional probabilistic analysis of multi-point-of-reference samples of an item to disambiguate state information as pertains to the item,” Patent Application, Filed December 15, 2006.
- [5] D. Schonfeld and N. Bouaynaya, “Dynamic tree programming – Extension of the Viterbi algorithm to multidimensional systems,” Provisional Patent, Filed February 19, 2006.
- [6] D. Schonfeld, K. Hariharakrishnan, P. Raffy, and F. Yassa, “Object tracking using adaptive block-size matching along object-boundary and frame skipping when object motion is low,” Patent Application 12/324,481, Filed November 26, 2008.
- [7] D. Schonfeld, K. Hariharakrishnan, P. Raffy, and F. Yassa, “Occlusion/disocclusion detection using K-means clustering near object boundary with comparison of average motion of clusters to object and background motions,” U.S. Patent No. RE42790 E, Patent Issued October 4, 2011.

## M. PANEL SPEAKER

---

### **Working With Expert Witnesses**

*Quinn Emanuel Intellectual Property Academy*  
Chicago, Illinois  
2024

## N. KEYNOTE AND PLENARY TALKS

---

### **Stochastic noise process enhancement of nonlinear filtering**

*INPT/ASME International Conference on Communications, Signals and Systems*  
Rabat, Morocco  
1995

### **VORTEX: Video Retrieval and Tracking from Compressed Multimedia Databases**

*INPT/ASME International Conference on Communications, Signals and Systems*

Rabat, Morocco  
2001

**MotionSearch: Content-Based Video Retrieval and Activity Recognition in Video Surveillance**  
IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)  
Genoa, Italy  
2009

**Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions**  
IEEE International Conference on Networking, Sensing, and Control (ICNSC)  
Chicago, Illinois  
2010

**Signal Processing for Distributed Multi-Camera Networks: Theory and Applications**  
IEEE/IET International Conference on Audio, Language and Image Processing (ICALIP)  
Shanghai, China  
2010

**The Visual Brain: Biologically-Inspired Imaging and Vision**  
International Conference on Intelligent Control and Information Processing (ICICIP)  
International Conference on Brain Inspired Cognitive Systems (BICS)  
Beijing, China  
2013

**Distributed Multi-Camera Networks: Graphs, Grammars, and Tensors**  
International Conference on Wireless Communications and Signal Processing (WCSP)  
Yangzhou, China  
2016

**University of Illinois – New Oriental Artificial Intelligence Research Laboratory**  
N-Brain Alliance Launch & Product Release Conference  
New Oriental AI Research Academy  
Beijing, China  
2018

**AI Technology in Education and Academic Thinking**  
Think for Education Conference (TEC) AI+Education  
Beijing, China  
2018

**Adversarial Networks: Deep Learning, Steganography, and Forgery Detection**  
IEEE International Conference on Computer, Electrical and Communication Engineering (ICCECE)  
Kolkata, India  
2023

## **O. INVITED SEMINARS**

---

**Optimal morphological representation and detection of binary images**

Department of Electrical Engineering and Computer Science  
Northeastern University  
Boston, Massachusetts  
1990

**Optimal morphological representation and detection of binary images**

The Johns Hopkins University  
Applied Physics Laboratory  
Laural, Maryland  
1990

**Optimal morphological representation and detection of binary images**

Center for Automation Research  
University of Maryland  
College Park, Maryland  
1990

**Optimal morphological representation and restoration of binary images: Theory and applications**

Department of Electrical and Computer Engineering  
Illinois Institute of Technology  
Chicago, Illinois  
1990

**Optimal morphological representation and restoration of binary images: Theory and applications**

Department of Electrical and Computer Engineering  
University of California  
Santa Barbara, California  
1990

**Optimal morphological representation and restoration of binary images: Theory and applications**

Department of Electrical Engineering and Computer Science  
Northwestern University  
Evanston, Illinois  
1991

**Morphological image processing and analysis: Theory and applications**

Department of Electrical and Computer Engineering  
University of Illinois  
Urbana-Champaign, Illinois  
1992

**Morphological image representation: Theory and applications**

DOD Tri-Service Workshop on Stochastic Methods in Image Analysis  
U.S. Army Harry Diamond Laboratories  
Adelphi, Maryland  
1992

**Morphological representation of nonlinear filters: Theory and applications**

Department of Electrical and Computer Engineering  
Illinois Institute of Technology  
Chicago, Illinois  
1993

**Morphological image representation: Theory and applications**  
ONR Workshop on Vision and Optical Information Processing  
Arlington, Virginia  
1994

**Nonlinear Signal and Image Processing**  
Department of Electrical Engineering and Computer Science  
University of Illinois  
Chicago, Illinois  
1996

**Nonlinear Operators: Theory and Application to Image Processing and Communications**  
School of Electrical and Computer Engineering  
Technion – Israel Institute of Technology  
Haifa, Israel  
1996

**Stochastic Noise Process Enhancement of Nonlinear Filtering**  
Department of Electrical Engineering  
Northern Illinois University  
DeKalb, Illinois  
1996

**Morphological Signal and Image Processing: Theory and Applications**  
Department of Electrical Engineering—Systems  
University of Tel-Aviv  
Tel-Aviv, Israel  
1997

**VORTEX: Video Retrieval and Tracking from Compressed Multimedia Databases**  
Department of Electrical and Computer Engineering  
Illinois Institute of Technology  
Chicago, Illinois  
2001

**Mathematical Morphology and Computer Vision**  
University of Illinois at Chicago  
Chicago, Illinois  
2002

**VORTEX: Video Retrieval and Tracking from Compressed Multimedia Databases**  
Department of Electrical and Computer Engineering  
Drexel University  
Philadelphia, Pennsylvania  
2002

**Time-Series Analysis Based on Statistical Signal Processing:  
Segmentation, Prediction, and Tracking**

Global Electronic Trading Company (Getco)  
Chicago, Illinois  
2004

**Particle Filtering for Head Tracking in Wireless Communications**

Motorola Research Labs  
Schaumburg, Illinois  
2004

**Real-Time Video Communications: Compression, Tracking, Retrieval, and Networking**

University of Illinois  
Chicago, Illinois  
2005

**Real-Time Video Tracking and Retrieval from Multimedia Databases**

Motorola Research Labs  
Schaumburg, Illinois  
2005

**Real-Time Multiple Object Tracking and Motion Trajectory-Based Video Databases:  
Indexing, Retrieval, and Activity Recognition**

Hewlett-Packard Research Labs  
Haifa, Israel  
2005

**Real-Time Video Tracking Based on Particle Filtering**

University of Illinois  
Chicago, Illinois  
2005

**Real-Time Collaborative Distributed Tracking and Trajectory Analysis from Multiple  
Camera and Sensor Networks**

School of Electrical and Computer Engineering  
Purdue University  
West Lafayette, Indiana  
2005

**A New Method for Multidimensional Optimization and Its Application in Image and Video  
Processing**

Department of Electrical Engineering and Computer Science  
Northwestern University  
Evanston, Illinois  
2006

**Protein Communication System: Evolution and Genomic Structure**

Department of Electrical and Computer Engineering  
University of Illinois at Urbana-Champaign  
Urbana-Champaign, Illinois  
2006

**Protein Communication System: Evolution and Genomic Structure**

Bioinformatics Group  
Mathematics and Computer Science Division  
Argonne National Laboratory  
Argonne, Illinois  
2006

**Distributed Image and Video Processing:  
Directed Graphs, Bayesian Estimation, and Hidden Markov Models**

College of Information Science and Engineering  
Graduate School  
Chinese Academy of Science  
Beijing, P.R. China  
2007

**Distributed Image and Video Processing:  
Directed Graphs, Bayesian Estimation, and Hidden Markov Models**

Visual Computing Group  
Microsoft Research Asia  
Beijing, P.R. China  
2007

**Distributed Image and Video Processing:  
Directed Graphs, Bayesian Estimation, and Hidden Markov Models**

School of Electronic and Information Institute  
Tongji University  
Shanghai, P.R. China  
2007

**Distributed Image and Video Processing:  
Directed Graphs, Bayesian Estimation, and Hidden Markov Models**

School of Automation  
Institute of Automation  
Hangzhou Dianzi University  
Hangzhou, P.R. China  
2007

**Distributed Image and Video Processing:  
Directed Graphs, Bayesian Estimation, and Hidden Markov Models**

Department of Information Science and Electronic Engineering  
Institute of Information and Communication Systems  
Zhejiang University  
Hangzhou, P.R. China  
2007

**IneractiveVision: Distributed Image and Video Processing**

Intellectual Property Technical Lecture Series  
McAndrews, Held & Malloy, Ltd.  
Chicago, Illinois  
2007

**Distributed Image and Video Processing:**

**Directed Graphs, Bayesian Estimation, and Hidden Markov Models**

Departments of Computer Science and Electrical & Computer Engineering  
Technion, Israel Institute of Technology

Haifa, Israel

2007

**MotionSearch: Content-Based Video Retrieval and Classification**

Joint Chapters of the IEEE

Rochester, New York

2008

**Evolution and Genomic Structure: A Signal Processing Perspective**

Bioinformatics Cluster

University of Rochester

Rochester, New York

2008

**Evolution and Genomic Structure: A Signal Processing Perspective**

Department of Electrical Engineering

Columbia University

New York, New York

2008

**Evolution and Genomic Structure: A Signal Processing Perspective**

Department of Electrical Engineering and Computer Science

Northwestern University

Evanston, Illinois

2008

**MotionSearch: Content-Based Video Retrieval and Classification**

Distinguished Speaker in the Joint College Colloquium Series

College of Engineering and Information Technology and College of Science and Mathematics

Department of Applied Science

University of Arkansas at Little Rock

Little Rock, Arkansas

2008

**Evolution and Genomic Structure: A Signal Processing Perspective**

Department of Electrical and Computer Engineering

University of Wisconsin – Madison

Madison, Wisconsin

2008

**MotionSearch: Content-Based Video Retrieval and Classification**

Department of Electrical & Computer Engineering

Tufts University

Medford, Massachusetts

2009

**MotionSearch: Content-Based Video Retrieval and Classification**

Department of Electrical & Microelectronics Engineering  
Rochester Institute of Technology  
Rochester, New York  
2009

**MotionSearch: Content-Based Video Retrieval and Classification**

School of Computer Engineering  
Nanyang Technological University  
Singapore  
2009

**Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions**

Department of Electrical and Computer Engineering  
Illinois Institute of Technology  
Chicago, Illinois  
2010

**Personalized Visual Interaction: Robust Video-Conferencing and Human-Computer Interaction Using a Two-Camera Computer System**

Qualcomm Corp.  
San Diego, California  
2010

**Evolution and Genomic Structure: A Signal Processing Perspective**

Department of Information Engineering and Computer Science - DISI  
Microsoft Research-University of Trento Centre for Computational and Systems Biology  
University of Trento  
Trento, Italy  
2010

**A Novel Cache Optimization Algorithm and Video Streaming Protocol for Pure Peer-to-Peer Networks**

Motorola Research Labs  
Schaumburg, Illinois  
2010

**Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions**

Research Center of Automation  
Northeastern University  
Shenyang, P.R. China  
2010

**Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions**

School of Automation and Electric Engineering  
Zhejiang University of Science and Technology  
Hangzhou, P.R. China  
2010

**Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions**

Center for OPTical IMagery Analysis and Learning (OPTIMAL)  
State Key Laboratory of Transient Optics and Photonics  
Xi'an Institute of Optics and Precision Mechanics  
Chinese Academy of Sciences  
Xi'an, P.R. China  
2010

**Distributed Multi-Camera Networks: Graphs, Grammars, and Tensors**

Dean's Leadership in Innovation Seminar Series  
Advanced Analytics Institute (AAI)  
University of Technology  
Sydney, Australia  
2012

**Genomic Signal Processing: Evolution, Structure, and Regulation**

Dean's Leadership in Innovation Seminar Series  
Advanced Analytics Institute (AAI)  
University of Technology  
Sydney, Australia  
2012

**Distributed Multi-Camera Networks: Theory and Applications**

Harbin Engineering University (HEU)  
Harbin, China  
2014

**Distributed Multi-Camera Networks: Theory and Applications**

Electrical and Computer Engineering Graduate Program  
Ryerson University  
Toronto, Canada  
2014

**Genomic Signal Processing: Evolution, Structure, and Regulation**

Distinguished Lecturer Seminar Series  
Electrical Engineering Department  
The Pennsylvania State University  
University Park, Pennsylvania  
2015

**Genomic Signal Processing: Evolution, Structure, and Regulation**

School of Electrical & Electronic Engineering  
Nanyang Technological University  
Singapore  
2015

## **P. GRADUATE STUDENTS AND VISTING SCHOLARS**

---

### **P.1. Visiting Scholars**

---

**Mohammed Charif-Chefchaoui**

Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1995

Position: Director and Professor, National Institute of Postes and Telecommunications, Morocco.

**Yuesong Lin**

Department of Electrical and Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2007

Position: Professor, Institute of Information and Control, Hangzhou Dianzi University, Hangzhou, P.R. China.

**Haihong Chi**

Department of Electrical and Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2010

Position: Associate Professor, College of Automation, Harbin Engineering University (HEU), Harbin, P.R. China.

**Claudio Piciarelli**

Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
2010

Position: Postdoctoral Fellow, Department of Mathematics and Computer Science, University of Udine, Udine, Italy.

### **P.2. Postdoctoral Fellows**

---

**Mohammed Charif-Chefchaoui**

Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1994

Position: Director and Professor, National Institute of Postes and Telecommunications, Morocco.

### **P.3. Visiting Students**

---

**Alessio Dore**

Department of Electrical and Computer Engineering

University of Illinois at Chicago  
Chicago, Illinois  
2008

Former Position: Doctoral Candidate, DIBE - Department of Biophysical and Electronic Engineering, University of Genova, Genoa, Italy.

Current Position: Postdoctoral Fellow, Imaging Sciences Centre, Institute of Biomedical Engineering, Imperial College, London, United Kingdom.

**Yunmei Gong**

Department of Electrical and Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2008-09

Current Position: Doctoral Candidate, Information and Communication Engineering, College of Electronics and Information Engineering, Tongji University, Shanghai, P.R. China.

**Nicola Piotto**

Department of Electrical and Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2010

Current Position: Doctoral Candidate, Department of Engineering and Computer Science – DISI, Multimedia Signal Processing and Understanding Lab – MMLab, University of Trento, Trento, Italy.

---

## **P.4. Doctoral Students**

**Mohammed Charif-Chefchaoui**

“Morphological Representation of Nonlinear Filters: Theory and Applications”

Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1993

Former Position: Professor, National Institute of Postes and Telecommunications, Rabat, Morocco.

Current Position: Director, National Institute of Postes and Telecommunications, Rabat, Morocco.

**Dan Lelescu**

“VORTEX: Video Retrieval and Tracking from Compressed Multimedia Databases”

Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
2000

Former Position(s): Senior Research Scientist, Lead of Algorithms Group, Compression Sciences, Campbell, California, USA; Senior Researcher, NTT DoCoMo Communications Laboratories USA, San Jose, California, USA; Principal Scientist, Advanced Imaging Research & Development Laboratory, Micron Technology, California, USA; Chief Scientist, Pelican Imaging Corporation, Mountain View, California, USA; Chief Scientist, Emergent VR, Campbell, California, USA.

Current Position: Engineer, Apple, Cupertino, California, USA.

**Bulent Cavusoglu**

“Real-Time Content-Based Video Communications over Heterogeneous Networks”

(Jointly Supervised with Prof. Rashid Ansari)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2005  
Current Position: Professor, Ataturk University, Erzurum, Turkey.

**Faisal Bashir**

“MotionSearch: Object Motion Trajectory-Based Video Search and Classification System”  
(Jointly Supervised with Prof. Ashfaq Khokhar)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2006  
Internship: Mitsubishi Electric Research Laboratory (MERL), USA.  
Former Position(s): Intern, Mitsubishi Electric Research Laboratory (MERL), Cambridge, Massachusetts, USA; Senior Imaging Scientist, Retica Systems, Inc., Waltham, Massachusetts, USA; Senior Vision Engineer, Heartland Robotics, Cambridge, Massachusetts, USA.  
Current Position: Senior Principal Engineer – Advanced Development Group, Security and Detection Systems, L-3 Communications, Woburn, Massachusetts, USA.

**Wei Qu**

“Real-Time Distributed Video Tracking of Multiple Objects from Single and Multiple Cameras”  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2006  
Internship: Mitsubishi Electric Research Laboratory (MERL), USA; Siemens Medical Systems, USA.  
Former Position(s): Senior Research Scientist, Motorola Research Labs, Schaumburg, Illinois, USA; Senior Scientist, Siemens Medical Solutions USA, Hoffman Estates, Illinois, USA; Associate Professor, Graduate University of Chinese Academy of Sciences, Beijing, China; CEO Special Assistant, Director of Technology, President of CSST Research, Hong Kong; Vice President, R&D, Special Assistant to CEO, President of Beijing Research Institute, Beijing, China; Co-Founder, SmartVision Technology, Beijing, China.  
Current Position: President, Artificial Intelligence Research Institute, New Oriental Education & Technology Group Inc., Beijing, China.

**Nidhal Bouaynaya**

“Analysis of Proteomics and Genomics Based on Signal Processing and Communication Theory”  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2007  
Former Position: Assistant Professor, Department of Systems Engineering, University of Arkansas at Little Rock, Little Rock, Arkansas, USA.  
Current Position: Associate Dean for Research & Graduate Studies, Rowan University, Glassboro, New Jersey, USA.

**Hunsop Hong**

Constrained and Hierarchical Density Estimation for Image Reconstruction and Sensor Networks  
Department of Electrical & Computer Engineering

University of Illinois at Chicago  
Chicago, Illinois  
2008

Current Position: Senior Research Engineer, Samsung Information Systems America, Irvine, California, USA.

**Pan Pan**

Video Tracking Based on Particle Filters: Particle Allocation, Graphical Models, and Performance Evaluation

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2009

Internship: NTT Research Laboratory, Japan; Mitsubishi Electric Research Laboratory (MERL), USA.  
Former Position: Senior Researcher, Project Manager, Fujitsu Research and Development, Beijing, China.

Current Position: Technical Director, Alibaba Group, Beijing, China.

**Xiang Ma**

Motion Trajectory-Based Video Retrieval and Recognition: Tensor Analysis and Multi-Dimensional Hidden Markov Models

(Jointly Supervised with Prof. Ashfaq Khokhar)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2009

Internship: Knowledge Media Institute, Open University, United Kingdom; Siemens Medical Solutions USA, Hoffman Estates, Illinois, USA; Computer Vision Research Engineer, IntuVision, Inc., Woburn, Massachusetts, USA.

Former Position: Senior Research Scientist and Engineer, IntuVision, Inc., Woburn, Massachusetts, USA; Lead Engineer – 3D Maps & Reality Capture Processing, Nokia, Chicago, Illinois, USA; Research Manager, Manager of Engineering – Computer Vision, Artificial Intelligence R&D, HERE Technologies, Chicago, Illinois, USA; Applied Science Manager – Computer Vision and Artificial Intelligence, Amazon, Boston, Massachusetts, USA.

Current Position: Head of Research – Amazon Dash Carts, Senior Manager of Applied Sciences, Amazon, Boston, Massachusetts, USA.

**Junlan Yang**

Virtual Video Enhancement for Handheld Mobile Cameras: Stabilization, Auto-Focus, and Super-Resolution

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2009

Internship: Ricoh Research Laboratory, Menlo Park, California, USA; Sharp Laboratories of America, USA.

Former Position: Senior Software Engineer, iKoa Corporation, Menlo Park, California, USA; Research Scientist, Marseille Networks, Santa Clara, California, USA.

Current Position: Senior Software Engineer, Google LLC, Mountain View, California, USA.

**Chong Chen**

Multi-Camera Vision Systems: Distributed Pose Estimation and Plenoptic Imaging  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2009

Internship: Siemens Research Laboratory, USA; FX Palo Alto Laboratory (FXPAL), USA; Abbott Laboratories, USA.

Former Position: Senior Research Engineer, Samsung Information Systems America, Irvine, California, USA.

Current Position: Video Engineer, Apple, Cupertino, California, USA.

### **Xu Chen**

Localization and Trajectory Estimation of Mobile Objects from a Single Sensor  
(Jointly Supervised with Prof. Ashfaq Khokhar)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2010

Internship: Institute of Electrical Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland; Kodak Research Laboratories, USA.

Former Position(s): Postdoctoral Fellow, Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, Michigan, USA; Postdoctoral Fellow, Department of Electrical and Computer Engineering, Duke University, Durham, North Carolina, USA; Senior Researcher, Sharp Laboratories of America, Camas, Washington, USA.

Current Position: Senior Machine Learning Developer, SAS, Cary, North Carolina, USA.

### **Lei Gao**

Compiler Optimization for Translating Software Binaries onto FPGAs  
(Jointly Supervised with Prof. Prith Banerjee)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2010

Internship: Binachip, Inc., Chicago, Illinois, USA.

Former Position: Senior Engineer, Binachip, Inc., Chicago, Illinois, USA.

Current Position: Staff R&D Engineer, Synopsis, Inc., Marlborough, Massachusetts, USA.

### **Liuling Gong**

Machine Learning for Signal Processing:  
Geometry, Kernels, and Symbolic Sequences  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2010

Internship: eBay Research Labs, USA.

Former Position: Postdoctoral Fellow, Center for the Study of Complex Systems, University of Michigan, Ann Arbor, Michigan, USA; Seismic Imager, CGGVeritas, Houston, Texas, USA; Data Scientist, GE Oil & Gas, Houston, Texas, USA.

Current Position: Data Scientist, Equinor, Houston, Texas, USA.

### **Songqing Zhao**

Multiple Description Coding for Correlated Multi-Path Networks  
(Jointly Supervised by Profs. Rashid Ansari and Daniela Tuninetti)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2010

Internship: Mitsubishi Electric Research Laboratory (MERL), USA.  
Former Position: Voice and Data Quality Engineer, Voice & Data Quality and Performance Analysis Group, Alcatel-Lucent, Murray Hill, New Jersey, USA.  
Current Position: Senior Wireless Engineer, Apple, Cupertino, California, USA.

### **Xiangqiong Shi**

Bayesian Networks: Performance Analysis of Loopy Belief Propagation  
(Jointly Supervised with Prof. Daniela Tuninetti)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2011

Internship: Motorola Research Labs, Schaumburg, Illinois, USA; Technicolor, Research & Innovation, Princeton, New Jersey, USA; Nokia Research Center, Palo Alto, California, USA.  
Former Positions: Software Engineer, Volkswagen of America, Electronics Research Lab, Herndon, Virginia, USA; Software Engineer, Apple, Cupertino, California, USA.  
Current Position: Software Engineer, Ouster, San Francisco, California, USA.

### **Liming Wang**

Genomic Signal Processing and Regulatory Networks: Representation, Dynamics and Control  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2011

Former Position: Postdoctoral Fellow, Department of Electrical Engineering, Columbia University, New York, New York, USA; Postdoctoral Associate, Department of Electrical and Computer Engineering, Duke University, Durham, North Carolina, USA; Postdoctoral Associate, Department of Electrical and Computer Engineering, Ohio State University, Columbus, Ohio, USA.  
Current Position: Lead Data Scientist, HERE Technologies, Chicago, Illinois, USA.

### **Jing Huang**

Distributed Signal and Image Processing:  
Particle Filters, Context Grammars, and Dynamic Games  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2013

Internship: Fuji Xerox Palo Alto Laboratory (FXPAL), Palo Alto, California, USA; Motorola Mobility, Applied Research Center, Libertyville, Illinois, USA; Nokia Research Center, Berkeley, California, USA.  
Former Positions: Software Development Engineer, TeraRecon, Inc., Foster City, California, USA; Senior Deep Learning Software Engineer, Intel Artificial Intelligence, Intel Corporation, Santa Clara, California.  
Current Position: Software Engineer, Microsoft Artificial Intelligence & Research, Bellevue, Washington, USA.

**Qun Li**

Multilinear Algebra in High-Order Data Analysis: Retrieval, Classification and Representation

Department of Electrical & Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2013

Internship: Xerox Research Center, Xerox Innovations Group, Webster, New York, USA.

Former Positions: Research Scientist, Xerox Research Center, Xerox Innovations Group, Webster, New York, USA; Research Scientist, PARC, A Xerox Company, Palo Alto, California, USA.

Current Position: Senior Data Scientist, Microsoft, Bellevue, Washington, USA;

**Johnson Jonaris GadElkarim Keiriz**

From Micro to Macro: A Study of Human Brain Structure Based on Diffusion MRI and Neuronal Networks

(Jointly Supervised by Profs. Alex Leow and Richard Magin)

Department of Electrical & Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2013

Former Position: Postdoctoral Fellow, Department of Psychiatry, University of Illinois, Chicago, Illinois, USA; Lead Developer, nView medical Inc., Salt Lake City, Utah, USA; Research Scientist, Tamaggo, Montreal, Quebec, Canada; Research Scientist – Senior Software Engineer, Object Research Systems (ORS) Inc., Montreal, Quebec, Canada; Research Associate, Electronic Visualization Laboratory (EVL), University of Illinois at Chicago (UIC), Chicago, Illinois; USA.

Current Position: Principal CT Software Engineer, Canon Medical Research USA, Inc. Vernon Hills, Illinois, USA.

**Lingdao Sha**

When Sparsity Meets Graphs, Images, Structured and High-Dimensional Data

(Jointly Supervised with Prof. Jing Wang)

Department of Electrical & Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2018

Former Position: Senior Machine Learning Scientist, Tempus Labs, Inc., Chicago, Illinois, USA.

Current Position: Applied Scientist II, Amazon, San Diego, California.

**Haoyu Wang**

Depth-constrained Feature-based Stitching System for Stereoscopic Panoramic Video Generation

Department of Electrical & Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2019

Current Position: Computer Vision Engineer, Blackmagic Design, Colorado Springs, Colorado, USA.

**Mehdi Sharifzadeh**

Steganography and Steganalysis of Raw and Compressed Image Data

Department of Electrical & Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2019

Internships: Software Engineering Intern, Google Brain, Mountain View, California, USA; Data Scientist Intern, Western Digital, Milpitas, California, USA; Data Scientist Intern, SanDisk, Milpitas, California, USA.

Previous Position: Research Engineer, Snap, Inc., Santa Monica, California, USA.

Current Position: Senior Software Engineer, Google, Inc., Los Angeles, California, USA.

### **Chirag Agarwal**

Robustness and Explainability of Deep Neural Networks: Architectures and Applications

Department of Electrical & Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2020

Internships: Research Intern, Geisinger Health Systems, Danville, Pennsylvania, USA; Research and Development Intern, Kitware Inc., Clifton Park, New York, USA; Imaging Science Intern, Tempus Labs Inc., Chicago, Illinois, USA; Computer Vision / Augmented Reality Intern, Robert Bosch LLC, Farmington Hills, Michigan, USA.

Previous Position: Postdoctoral Research Fellow, Department of Computer Science, Department of Biomedical Informatics, and Business School, Harvard University, Cambridge, Massachusetts, USA; Research Scientist, Media and Data Science Research Laboratory, Adobe Research, Bangalore, India.

Current Position: Assistant Professor, Department of Computer Science, School of Engineering, and Program of Data Science, School of Data Science, University of Virginia, Charlottesville, Virginia, USA.

### **Mohammed Aloraini**

Digital Media Forgery Detection

Department of Electrical & Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2020

Current Position: Assistant Professor, Head of Electrical Engineering Department, Vice Dean of Academic Affairs, Qassim University, Buraydah, Qassim, Saudi Arabia.

### **Igor Fortel**

Excitation-Inhibition Balance: A Study of Brain Network Dynamics Using Statistical Mechanics

(Jointly Supervised by Prof. Alex Leow)

Department of Biomedical Engineering

University of Illinois at Chicago

Chicago, Illinois

2021

Current Position: Systems Design Engineer, T-Mobile, Chicago, Illinois; Research Specialist, University of Illinois at Chicago, Chicago, Illinois.

### **Deepika Aggarwal**

Deep Learning Networks

Department of Electrical and Computer Engineering

University of Illinois at Chicago

Chicago, Illinois

2026 (Est.)

Current Position: TBD.

**Sayan Koley**  
Deep Learning Networks  
Department of Electrical and Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2026 (Est.)  
Current Position: TBD.

## **P.5. Masters Thesis Students**

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**Vladimir Pavlovic**  
“Stochastic Noise Process Enhancement of Hopfield Neural Networks”  
(Jointly Supervised with Prof. Gary Friedman)  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1993  
Position: Professor, Department of Computer Science, Rutgers University, New Jersey, USA.

**Deepak K. Bal**  
“Transmission of Real-Time MPEG-2 Video Over Differentiated Services Networks”  
(Jointly Supervised with Prof. Rashid Ansari)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2003  
Position: Takata, Inc., Michigan, USA.

**Karthik Hariharakrishnan**  
“Visual Tracking: New Methods Using Adaptive Block Matching and Particle Filters”  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2003  
Internship: NeoMagic Corp., USA.  
Previous Position(s): National Instruments, India; Motorola, India; Senior Design Engineer, ARM, Ltd., United Kingdom.  
Current Position: Staff Software Engineer, ARM, Ltd., United Kingdom.

**Subhash Balam**  
“Associative Processors for Video Coding”  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2004  
Position: Senior Staff Engineer/Manager, Qualcomm Corp., California, USA.

**Emir Mulabegovic**  
“Lightweight Streaming Protocol for Real-Time Video Communications”

(Jointly Supervised with Prof. Rashid Ansari)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2005  
Former Position: PCTEL, Illinois, USA.  
Current Position: Systems Architect, Personal, Inc., Sarajevo, Bosnia and Herzegovina.

**Andrea De Mauro**

“A Peer-to-Peer Network for Real-Time Multiple-Description Video Communications  
Using Multiple Paths”  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2006  
Former Position: Financial Solutions Systems Analyst, Procter & Gamble, Newcastle, United Kingdom.  
Current Position: Business Intelligence Manager, Procter & Gamble, Newcastle, Rome, Italy.

**Claudio Rossi**

“A Partially-Reliable Multihomed Transport Protocol for Real-Time Multiple-Description  
Multimedia Traffic”  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2006  
Position: Area Manager, IBM, Milan, Italy.

**Amita Talati**

Design and Evaluation of Data Compression and Decompression Applications on Field Programmable  
Gate Arrays  
(Jointly Supervised with Prof. Prith Banerjee)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2008  
Former Position: Customer Applications Engineer, Newark Corporation, Cleveland, Ohio, USA.  
Current Position: Senior Engineer, Newark Corporation, Cleveland, Ohio, USA.

**Carlo Giulietti**

A Novel Cache Optimization Algorithm and Protocol for Video Streaming in Pure Peer-to-Peer  
Networks  
(Jointly Supervised with Prof. Rashid Ansari)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2010  
Position: Software Engineer, Astek, Sophia Antipolis, France.

**Edmond Gjondrekaj**

Clustering and Similarity Analyses of miRNA Assay by Means of Reprogrammable Devices  
Department of Electrical & Computer Engineering

University of Illinois at Chicago  
Chicago, Illinois  
2010

**Alberto Mannari**

Enhanced Frame Buffer Management for HEVC Encoders and Decoders  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2015

Position: Specialist Electronics Engineer, Teoresi Inc., Burr Ridge, Illinois; Software Developer, IBM, San Jose, California, and Rüschtikon, Zurich, Switzerland.

**Vasundhara Goyal**

Generation of Stereoscopic Video From Monocular Image Sequences Based on Epipolar Geometry  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2017

Position: Embedded Software Developer, Pi Square Technologies, Farmington, Michigan; Senior Embedded Software Developer, Lead and Scrum Master, ASML, Wilton, Connecticut; ADAS Feature & Software Developer, Ford Motor Company, Dearborn, Michigan.

**Akreem Talal Mohammed Saeed**

Location Based Assistant on Android Platform  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2017

Position: Lecturer and Director of Information Technology Services, Ninevah University, Mosul, Iraq.

**Lorenzo Norcini**

Attention-Guided Mask Propagation for Video Object Segmentation  
Department of Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
2019

Position: Senior Software Development Engineer, Amazon Web Services, Seattle, Washington.

**Francesca Pistilli**

GraphPointNet: Graph Convolutional Neural Network for Point Cloud Denoising  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2019

Position: Doctoral Student, Politecnico di Torino, Turin, Italy; Assistant Professor, Politecnico di Torino, Turin, Italy.

**Francesco Donato**

CoTraM: Convolutional Transformer for Multichannel Time-Series Classification  
(Jointly Supervised with Prof. Bharati Prasad)

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2023

Position: Machine Learning Research Engineer, Istituto Italiano di Tecnologia, Genoa, Italy; Machine Learning Research Engineer, Sony Interactive Entertainment, San Mateo, California.

**Matteo Carnevale Schianca**

Deep Joint Denoising and Compression for Satellite Images  
(Jointly Supervised with Prof. Enrico Magli)  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
Chicago, Illinois  
2025  
Position: TBD.

## **P.6. Masters Project Students**

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**Neil Zalut**

“Linear Restoration of Medical Images: An Overview”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1993

**Branislav Kisacanin**

“A Fast Thresholded Linear Convolution Representation of Morphological Operations”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1993

**Alan Baumgartner**

“Morphological Segmentation of Computed Tomography Images”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1994

**Alvin Ng**

“Spatially-Variant Morphological Skeleton Representation”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1994

**Smriti Anand**

“Efficient Fast Reconstruction Algorithms in Computerized Tomography”  
Department of Electrical Engineering and Computer Science

University of Illinois at Chicago  
Chicago, Illinois, May 1995

**Stephan W. Wegerich**

“Subband Image Restoration and Blur Identification Using the EM Algorithm and Cross-Filtering”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1995

**Robert Werckmeister**

“Performance Analysis of Video Communications in Multimedia Networks”  
(Jointly Supervised with Prof. Ouri Wolfson)  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1996

**Margaret Kelton**

“A Fast Method for Transform Conversion for Use in Image Processing”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1998

**Kailash Ravishankar**

“Frequency Prediction of High-Order Autoregressive Moving Average Sequences”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1998

**Amir Yafe**

“Transmission of MPEG-2 Streams Over Packet-Switched Networks”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1998

**Steven J. Doering**

“Digital Modulation: Applications to CDMA Communication Systems (IS-95)”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois  
1999

**Abhijit Bhattacharya**

“MPEG-1 and H.263 Video Decoding on Motorola GSM Cellular Phone”  
Department of Electrical Engineering and Computer Science  
University of Illinois at Chicago  
Chicago, Illinois

1999

**Qin Cai**

“Differentiated Transmission of MPEG-2 Video Bitstream Over Communication Networks”

(Jointly Supervised with Prof. Rashid Ansari)

Department of Electrical Engineering and Computer Science

University of Illinois at Chicago

Chicago, Illinois

2000

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**Q. RESEARCH GRANTS**

D. Schonfeld (PI)

“Morphological image representation: Theory and applications”

*Office of Naval Research (ONR)*

\$150,000

1991-1995

S. Corson (PI) and D. Schonfeld (Co-PI)

“Parallel processing research”

*University of Illinois*

Campus Research Board (CRB)

\$14,995

1994-1995

R. Ansari (PI), P. Hesketh (Co-PI), and D. Schonfeld (Co-PI)

“One-step process for instant ticket validation”

*GTECH Corporation*

\$5,000

1997

D. Schonfeld (PI)

“National Communications Forum”

*International Engineering Consortium (IEC)*

\$500

2000

D. Schonfeld (PI)

“Real-Time Very-Low Bit-Rate MPEG-4 Video Compression for Wireless Communication Application”

*Neomagic Corporation*

\$69,553

2001-2003

A. Khokhar (PI), R. Ansari (Co-PI), R. Grossman (Co-PI), D. Schonfeld (Co-PI), and C. Yu (Co-PI)

“High-Speed Terabyte Storage Server Based on Intelligent Disk Technology”

*Army Research Office (ARO)*

DURIP Program

\$422,626

2002-2004

D. Schonfeld (PI)

“Computer Architectures for Real-Time Video Communications”

*Neomagic Corporation*

\$76,075

2002-2004

M. Dutta (PI) et al.

“Design of a Super-Biological Eye Sensor System”

*Defense Advanced Research Projects Agency (DARPA)*

*Army Research Office (ARO)*

\$200,000 (Seed Project)

2002-2003

D. Schonfeld (PI)

“OMAP Code Composure Studio Software for Real-Time Video Communications”

*Texas Instruments, Inc.*

DSP University Program

\$4,500

2003

D. Schonfeld (PI)

“Real-Time Object Tracking of Video Sequences on Associative Processor Arrays”

*Neomagic Corporation*

\$68,750

2003-2005

D. Schonfeld (PI)

“Real-Time Low-Power High-Quality Interactive Video Telephony  
for Wireless Communication Applications”

*Motorola, Inc.*

\$19,331

2004-2005

D. Schonfeld (PI)

“Real-Time Low-Power High-Quality Interactive Video Communications  
for Video Animation and Stereography”

*Motorola, Inc.*

\$22,000

2005-2006

D. Schonfeld (PI)

“Real-Time High-Quality Video Communications from Handheld Cameras  
Using Video Stabilization and Auto-Focus”

*Motorola, Inc.*

\$75,000

2005-2008

D. Schonfeld (PI)

“Interactive Video Communications Based on Stereographic Imaging

From a Single Camera”  
*Motorola, Inc.*  
\$22,000  
2006-2007

A. Khokhar (PI) and D. Schonfeld (Co-PI)  
“MotionSearch: Motion Trajectory-Based Object Activity Retrieval and Recognition from Video and Sensor Databases”  
*National Science Foundation (NSF)*  
\$410,000  
2006-2009

D. Schonfeld (PI)  
“Real-Time Financial Forecasting Based on Statistical Signal Processing:  
Correlation Analysis and Fast Algorithms”  
*Gelber Group*  
\$66,522  
2006-2007

D. Schonfeld (PI)  
“Signal Communication and Processing in a RFID Sensor Network System”  
*Your Life Essentials*  
\$4,000  
2006-2008

D. Schonfeld (PI)  
“MobilePlenoptics: Panoramic Video Communications in Mobile Devices”  
*Motorola, Inc.*  
\$22,000  
2007-2008

D. Schonfeld (PI)  
“Machine Learning and Event Detection in Biological Systems”  
*VG Bioinformatics, Inc.*  
\$40,000  
2007-2008

A. Khokhar (PI) and D. Schonfeld (Co-PI)  
“International Supplement to MotionSearch: Motion Trajectory-Based Object Activity Retrieval and Recognition from Video and Sensor Databases”  
*National Science Foundation (NSF)*  
\$37,468  
2007-2008

D. Schonfeld (PI)  
“InteractiveVision: Collaborative Multiple-Input-Multiple-Output Inverse Problems with Application in Image and Video Processing”  
*National Science Foundation (NSF)*  
\$232,496  
2007-2010

A. Khokhar (PI) and D. Schonfeld (Co-PI)

“Research Experiences for Undergraduates (REU) Supplement to MotionSearch: Motion Trajectory-Based Object Activity Retrieval and Recognition from Video and Sensor Databases”

*National Science Foundation (NSF)*

\$12,000

2008-2009

D. Schonfeld (PI)

“Real-time Superresolution for Enhanced Video Streaming”

*iKoa Corporation*

\$25,000

2008-2009

D. Schonfeld (PI)

“Tracking Performance Evaluation based on a Reflective Model and Perturbation Analysis”

*Mitsubishi Electric Research Laboratories (MERL)*

\$1,228

2009

R. Magin (PI), M. Ragozzino (Co-PI), K. Rockne (Co-PI), T. Royston (Co-PI), and D. Schonfeld (Co-PI)

“Acquisition of a High Field Magnetic Resonance Imaging System for Science and Engineering Research”

*National Science Foundation (NSF)*

\$1,995,000

2009

D. Schonfeld (PI), N. Bouaynaya (Key/Senior Personnel), and H.M. Fathallah-Shaykh (Key/Senior Personnel)

“Minimal-Perturbation Dynamic Control of the Melanoma Gene Regulatory Network” (R01)

*National Institutes of Health (NIH)*

\$1,200,000

2010-2015

X. Joe Zhou (PI), D. Schonfeld (Co-PI), H. Engelhard (Co-PI), R. Magin (Co-PI), and T. Valyi Nagy (Co-PI)

“Probing Intra-voxel Tissue Heterogeneity Using MRI” (R01)

*National Institutes of Health (NIH)*

NIH R01EB026716-01

\$2,173,399

2018-2023

D. Schonfeld (PI)\*

“University of Illinois - New Oriental Artificial Intelligence Research Laboratory (UINO-AIRL)”

*New Oriental Education & Technology Group Inc.*

\$1,600,425

2019-2024

\* Funding was approved by the research sponsor but declined by the university because of potential conflict with export controls.

B. Prasad (PI), D. Schonfeld (Co-Investigator), S. Basu (Collaborator), M. Maienschein-Cline (Collaborator)  
“Machine Learning and Exosome Derived Biomarkers of Obstructive Sleep Apnea Induced Hypertension”  
*National Institutes of Health (NIH)*  
NIH 1R56HL157182-01A1  
\$676,935  
2022-2024

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## **R. ADMINISTRATIVE ACTIVITIES**

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### **R.1. Administrative Positions**

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**Director**  
**University-Industry Engineering Research Center (UIERC)**  
College of Engineering  
University of Illinois at Chicago  
2008—2011

**Supervisor**  
**Web Development**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2001—2002

**Director**  
**Timetable Schedule**  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1999—2000

### **R.2. University Committees**

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**Co-Chair**  
**University All-Campus Promotion and Tenure Committee**  
University of Illinois at Chicago  
2010—2011

**Member**  
**Graduate College Executive Committee**  
University of Illinois at Chicago  
2020—2022

**Member**  
**COVID-19 Relief Fund Application Review Committee**  
University of Illinois at Chicago  
2022

**Member**  
**Dean Review Committee**  
University of Illinois at Chicago  
2017—2018

**Member**  
**Graduate Mentor Award Committee**  
University of Illinois at Chicago  
2014—2016

**Member**  
**Chancellor's Graduate Research Fellowship Program**  
University of Illinois at Chicago  
2014—2016

**Member**  
**University Vision and Strategy**  
University of Illinois at Chicago  
2012—Present

**Member**  
**University Ad-Hoc Advisory Committee for the Office of Faculty Affairs**  
University of Illinois at Chicago  
2012—2013

**Member**  
**University Task Force to Review Non-Tenure Promotion Guidelines**  
University of Illinois at Chicago  
2011—2012

**Member**  
**University Promotion and Tenure Norms and Criteria Committee**  
University of Illinois at Chicago  
2011—2012

**Member**  
**University Honorary Degree Nominating Committee**  
University of Illinois at Chicago  
2010—2011

**Member**  
**University Promotion and Tenure Seminar Panel**  
Natural Science, Health Science, and Engineering  
University of Illinois at Chicago  
2010—2011

**Member**  
**University All-Campus Promotion and Tenure Committee**  
University of Illinois at Chicago  
2008—2011

**Member**  
**University Campus Research Board Committee**  
University of Illinois at Chicago  
2001—2004

**Member**  
**University Awards Committee**  
University of Illinois at Chicago  
1998—2001

**Member**  
**Student Appeals Board**  
University of Illinois at Chicago  
2004—2005

### **R.3. College Committees**

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**Member**  
**College Executive Committee**  
College of Engineering  
University of Illinois at Chicago  
2009-2012, 2015-2017; 2019-2020; 2022-2023

**Member**  
**Dean of the College of Engineering Search Committee**  
College of Engineering  
University of Illinois at Chicago  
2007-2008

**Member**  
**Wexler Chair in Information Technology Search Committee**  
College of Engineering  
University of Illinois at Chicago  
2006

**Member**  
**Advisory Committee for Bioinformatics Program in Bioengineering**  
University of Illinois at Chicago  
2000—2010

**Chair**  
**Networking Curriculum Subcommittee**  
College of Engineering  
University of Illinois at Chicago  
2005

**Member**  
**Departmental Reorganization and Formation Committee**  
College of Engineering  
Department of Electrical Engineering & Computer Science

University of Illinois at Chicago  
1999—2000

## **R.4. Departmental Committees**

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### **Mentoring Coordinator**

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2021—Present

### **Chair**

#### **Departmental Faculty Search Committee**

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2006-2008; 2010-2011; 2016-2017

### **Chair**

#### **Departmental Grievance Committee**

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2013—2019

### **Chair**

#### **Departmental Research & Colloquium Committee**

Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1996—1998; 2003—2004

### **Chair**

#### **Departmental Seminar Committee**

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2008—2010

### **Chair**

#### **Departmental Web Committee**

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2001—2003

### **Chair**

#### **Departmental Web & Computer Committee**

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2020-2021

### **Member**

#### **Department of Mathematics, Statistics, and Computer Science**

Personnel Review Committee for Jing Wang  
2020—2021

**Member**

**Departmental Advisory Committee**

Department of Electrical & Computer Engineering

University of Illinois at Chicago

1995—1996; 1998—1999; 2000—2002; 2004—2005; 2007—2010; 2015—2016; 2022—Present

**Member**

**Departmental Computer Committee**

Department of Electrical & Computer Engineering

University of Illinois at Chicago

1990—1992; 2001—2004

**Member**

**Departmental Computer & Web Committee**

Department of Electrical & Computer Engineering

University of Illinois at Chicago

2013—2016

**Member**

**Departmental Diversity & Inclusion Committee**

Department of Electrical & Computer Engineering

University of Illinois at Chicago

2020—2021

**Member**

**Departmental Electronics Instructional Laboratory Committee**

Department of Electrical Engineering & Computer Science

University of Illinois at Chicago

1997—1998

**Member**

**Departmental Faculty Search Committee**

Department of Electrical Engineering & Computer Science

University of Illinois at Chicago

1994—1995; 1998—2001; 2006—2008; 2010-2011; 2016—2017; 2021—Present

**Member**

**Departmental Graduate Admission and Recruitment**

Department of Electrical & Computer Engineering

University of Illinois at Chicago

2022—2023

**Member**

**Departmental Graduate Committee**

Department of Electrical Engineering & Computer Science

University of Illinois at Chicago

1995—2000; 2011—2015

**Member**

**Departmental Grievance Committee**

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2012—2021

**Member**

**Departmental Promotion & Tenure Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
1996—Present

**Member**

**Departmental Research & Colloquium Committee**  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1992—1998; 2001—2004

**Member**

**Departmental Scholarship Committee**  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1990—1996

**Member**

**Departmental Scholarship & Awards Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2019—2023

**Member**

**Departmental Seminar Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2008—2013

**Member**

**Departmental Undergraduate Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
1998 – 2003; 2005 – 2011; 2015—2019; 2023 – Present

**Member**

**Departmental Web Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2000—2011

**Member**

**Departmental Web & Computer Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago

2019-2021

## R.5. Curriculum Committees

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### **Chair**

#### **Departmental Communications and Networks Curriculum Subcommittee**

of the Undergraduate and Graduate Committees  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2001—2002; 2004

### **Chair**

#### **Departmental Signal Processing Curriculum Subcommittee**

of the Undergraduate and Graduate Committees  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2011

### **Member**

#### **Departmental Communications Curriculum Subcommittee**

of the Undergraduate and Graduate Committees  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2011

### **Member**

#### **Departmental Communications and Networking Curriculum Subcommittee**

of the Undergraduate and Graduate Committee  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2001—2002; 2004

### **Member**

#### **Departmental Computer Engineering Curriculum Subcommittee**

of the Undergraduate and Graduate Committee  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1998—2002

### **Member**

#### **Departmental Electrical Engineering Curriculum Subcommittee**

of the Undergraduate and Graduate Committee  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1996—2000

### **Member**

#### **Departmental Imaging Curriculum Subcommittee**

of the Undergraduate and Graduate Committees  
Department of Electrical Engineering & Computer Science

University of Illinois at Chicago  
1993

**Member**

**Departmental Information and Computer Systems Curriculum Subcommittee**  
of the Undergraduate and Graduate Committees  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2011

**Member**

**Departmental Masters of Engineering Program Subcommittee**  
of the Graduate Committee  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2005

**Member**

**Departmental Multimedia Curriculum Subcommittee**  
of the Undergraduate and Graduate Committees  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
2005

**Member**

**Departmental Networking Curriculum Subcommittee**  
of the Undergraduate and Graduate Committees  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1999—2000; 2005

**Member**

**Departmental Signals and Systems Curriculum Subcommittee**  
of the Graduate Committee  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2004

**Member**

**Departmental Signal Processing Curriculum Subcommittee**  
of the Undergraduate and Graduate Committees  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2011

**Member**

**Departmental Signal Processing and Communications Curriculum Subcommittee**  
of the Undergraduate and Graduate Committees  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1991

**Member**

**Departmental Student Cheating Policy Subcommittee**  
of the Undergraduate Committee  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1999

**Member**

**Departmental Teaching Assistant Assignment Subcommittee**  
of the Undergraduate Committee  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1996—1997

**Member**

**Departmental Teaching Assistant Award Subcommittee**  
of the Scholarship Committee  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1994

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## **R.6. Qualifier Committees**

**Chair**

**Departmental Communications Qualifier Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2003—2004; 2012

**Chair**

**Departmental Computer Communication Network Qualifier Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2002—2003; 2005

**Chair**

**Departmental Signal Processing Qualifier Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
1991—1995; 2001; 2002; 2008—2014, 2015—Present

**Member**

**Departmental Communications Qualifier Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
1997—2004; 2009—2014

**Member**

**Departmental Computer Communications Networks Qualifier Committee**

Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
2002—2005

**Member**

**Departmental Computer Vision Qualifier Committee**  
Department of Electrical Engineering & Computer Science  
University of Illinois at Chicago  
1993—2001

**Member**

**Departmental Signal Processing Qualifier Committee**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
1991—2001; 2004—Present

## **R.7. Research Laboratories and Centers**

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**Director**

**University-Industry Engineering Research Center (UIERC)**  
College of Engineering  
University of Illinois at Chicago  
2008—2011

**Co-Director**

**Multimedia Communications Laboratory (MCL)**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
1997—Present

**Member**

**Departmental Signal and Image Research Laboratory (SIRL)**  
Department of Electrical & Computer Engineering  
University of Illinois at Chicago  
1991—2002

## **S. TEACHING ACTIVITIES**

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### **S.1. The Johns Hopkins University**

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**ECE 137**  
Digital Signals and Systems  
Fall 1987

**ECE 137**  
Digital Signals and Systems  
Fall 1988

**ECE 137**  
Digital Signals and Systems  
Fall 1989

## **S.2. University of Illinois at Chicago**

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**EECS 212**  
Signal Processing  
Fall 1990

**EECS 212**  
Signal Processing  
Winter 1991

**EECS 416**  
Advanced Topics in Digital Signal Processing  
Spring 1991

**EECS 417**  
Digital Signal Processing  
Fall 1991

**EECS 554**  
Estimation Theory  
Fall 1991

**EECS 311**  
Communication Engineering  
Spring 1992

**EECS 554**  
Estimation Theory  
Fall 1992

**EECS / BioE 479**  
Real-Time Data Processing  
Spring 1993

**EECS / BioE 479**  
Real-Time Data Processing  
Fall 1993

**EECS 516**  
Optimal and Adaptive Digital Filters  
Fall 1993

**EECS 517**  
Image Processing  
Spring 1994

**EECS / BioE 479**  
Real-Time Data Processing  
Fall 1994

**EECS 517**  
Image Processing  
Spring 1995

**EECS 531**  
Detection and Estimation Theory  
Spring 1995

**EECS / BioE 479**  
Real-Time Data Processing  
Fall 1995

**EECS 517**  
Image Processing  
Spring 1996

**EECS 531**  
Detection and Estimation Theory  
Spring 1996

**EECS 530**  
Statistical Communication Theory  
Fall 1996

**EECS 517**  
Image Processing  
Spring 1997

**EECS / BioE 407**  
Pattern Recognition  
Fall 1997

**EECS 530**  
Statistical Communication Theory  
Fall 1997

**EECS / BioE 407**  
Pattern Recognition  
Spring 1998

**EECS 517**  
Image Processing  
Spring 1998

**EECS 517**  
Image Processing  
Motorola Campus

Spring 1998

**EECS 171**

Introduction to Programming  
Summer 1998

**EECS 516**

Optimal and Adaptive Digital Filters  
Fall 1998

**EECS 530**

Statistical Communication Theory  
Motorola Campus  
Fall 1998

**EECS 418**

Digital Signal Processing II  
Spring 1999

**EECS 517**

Image Processing  
Spring 1999

**EECS 531**

Detection and Estimation Theory  
Motorola Campus  
Spring 1999

**EECS 171**

Introduction to Programming  
Summer 1999

**EECS 417**

Digital Signal Processing I  
Fall 1999

**EECS 491**

Multimedia Communication Networks  
Spring 2000

**EECS 311**

Communication Engineering  
Summer 2000

**EECS 491**

Multimedia Communication Networks  
Internet Course (Preparation)  
Fall 2000

**EECS 516**

Optimal and Adaptive Digital Filters

Fall 2000

**EECS 531**

Detection and Estimation Theory  
Fall 2000

**EECS 491**

Multimedia Communication Networks  
Internet Course  
Spring 2001

**EECS 517**

Image Processing  
Spring 2001

**EECS 171**

Introduction to Programming  
Summer 2001

**ECE 516**

Optimal and Adaptive Digital Filters  
Fall 2001

**ECE 531**

Detection and Estimation Theory  
Fall 2001

**ECE 434**

Multimedia Communication Networks  
Internet Course  
Spring 2002

**ECE 517**

Image Processing  
Spring 2002

**CS 102**

Introduction to Programming  
Summer 2002

**ECE 433**

Computer Communication Networks  
Fall 2002

**ECE 434**

Multimedia Communication Networks  
Fall 2002

**ECE 333**

Computer Communication Networks  
Laboratory (Preparation)

Spring 2003

**ECE 311**

Communication Engineering

Fall 2003

**ECE 434**

Multimedia Communication Networks

Fall 2003

**ECE 517**

Image Processing

Spring 2004

**ECE 434**

Multimedia Communication Networks

Fall 2004

**ECE 516**

Optimal and Adaptive Digital Filters

Fall 2004

**ECE 517**

Image Processing

Spring 2005

**ECE 311**

Communication Engineering

Summer 2005

**ECE 434**

Multimedia Systems

Fall 2005

**ECE 516**

Optimal and Adaptive Digital Filters

Fall 2005

**ECE 517**

Image Processing

Spring 2006

**ECE 311**

Communication Engineering

Summer 2006

**ECE 434**

Multimedia Systems

Fall 2006

**ECE 516**

Optimal and Adaptive Digital Filters  
Fall 2006

**ECE 531**  
Detection and Estimation Theory  
Spring 2007

**ECE 311**  
Communication Engineering  
Summer 2007

**ECE 434**  
Multimedia Systems  
Fall 2007

**ECE 516**  
Optimal and Adaptive Digital Filters  
Fall 2007

**ECE 531**  
Detection and Estimation Theory  
Spring 2008

**ECE 434**  
Multimedia Systems  
Fall 2008

**ECE 516**  
Optimal and Adaptive Digital Filters  
Fall 2008

**ECE 530**  
Random Signal Analysis  
Spring 2009

**ECE 517**  
Image Processing  
Fall 2009

**ECE/BIOE 407**  
Pattern Recognition  
Spring 2010

**ECE 434**  
Multimedia Systems  
Fall 2010

**ECE 530**  
Random Signal Analysis  
Spring 2011

**ECE 434**  
Multimedia Systems  
Fall 2011

**ECE 530**  
Random Signal Analysis  
Spring 2012

**ECE 594**  
Machine Learning  
Spring 2012

**ECE 434**  
Multimedia Systems  
Fall 2012

**ECE 517**  
Image Processing  
Fall 2012

**ECE 530**  
Random Signal Analysis  
Spring 2013

**ECE 434**  
Multimedia Systems  
Fall 2013

**ECE 517**  
Image Processing  
Fall 2013

**ECE 434**  
Multimedia Systems  
Fall 2014

**ECE 517**  
Image Processing  
Fall 2014

**ECE 434**  
Multimedia Systems  
Fall 2015

**ECE 517**  
Image Processing  
Fall 2015

**ECE 434**  
Multimedia Systems  
Fall 2015

**ECE 517**

Image Processing  
Fall 2015

**ECE 407**

Pattern Recognition  
Spring 2016

**ECE 530**

Random Signal Analysis  
Spring 2016

**ECE 434**

Multimedia Systems  
Fall 2016

**ECE 517**

Image Processing  
Fall 2016

**ECE 407**

Pattern Recognition  
Spring 2017

**ECE 434**

Multimedia Systems  
Fall 2017

**ECE 517**

Image Processing  
Fall 2017

**ECE 517**

Image Processing  
Spring 2018

**ECE 530**

Random Signal Analysis  
Spring 2018

**ECE 434**

Multimedia Systems  
Fall 2018

**ECE 517**

Image Processing  
Fall 2018

**ECE 530**

Random Signal Analysis

Spring 2019

**ECE 434**  
Multimedia Systems  
Fall 2019

**ECE 517**  
Image Processing  
Spring 2020

**ECE 530**  
Random Signal Analysis  
Spring 2020

**ECE 434**  
Multimedia Systems  
Fall 2020

**ECE 530**  
Random Signal Analysis  
Spring 2021

**ECE 531**  
Detection and Estimation Theory  
Spring 2021

**ECE 434**  
Multimedia Systems  
Fall 2021

**ECE 517**  
Image Processing  
Fall 2021

**ECE 530**  
Random Signal Analysis  
Spring 2022

**ECE 531**  
Detection and Estimation Theory  
Spring 2022

**ECE 434**  
Multimedia Systems  
Fall 2022

**ECE 517**  
Image Processing  
Fall 2022

**ECE 530**

Random Signal Analysis  
Spring 2023

**ECE 434**  
Multimedia Systems  
Fall 2023

**ECE 517**  
Image Processing  
Fall 2023

**ECE 317**  
Digital Signal Processing I  
Spring 2024

### **S.3. University of Trento**

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**Content-Based Video Analysis: Tracking, Retrieval, and Classification**  
Information and Communication Technology (ICT) – International Doctoral School  
Department of Information Engineering and Computer Science  
University of Trento  
May 2010

# DAN SCHONFELD

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2720 Canterbury Dr.

Northbrook, IL 60062

E-mail: [schonfeld.dan@gmail.com](mailto:schonfeld.dan@gmail.com)

URL: <http://dans.people.uic.edu>

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Phone: (312) 996-5847

Cell: (847) 387-0052

Google: (872) 216-2844

Skype: dan\_schonfeld

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## A. LITIGATION CONSULTING EXPERIENCE

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### **Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

*Headwater Research LLC v. Samsung Co., Ltd et al.*

*USDC Eastern District of Texas*

*Civil Action No. 2:24-cv-00228-JRG-RSP*

Multimedia Systems (Multimedia Communications)

Atlanta, Georgia

2025 – Present

### **Consultant and Expert Witness**

Hogan Lovells international LLP on behalf of Amazon Digital UK Limited, Amazon Europe Core SARL, Amazon EU SARL, Amazon.com, Inc. and Amazon Media EU SARL

*InterDigital, Inc. et al. v. Amazon Digital UK Limited et al.*

*High Court of Justice – Business and Property Courts of England and Wales*

*Intellectual Property List (ChD) – Patents Court*

*Case No. [TBA]*

Multimedia Systems (Video Coding)

London, United Kingdom

2025 – Present

### **Consultant and Expert Witness**

DLA Piper LLP on behalf of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

*Maxell Ltd. v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.*

*International Trade Commission*

*ITC 337-TA-1432*

Multimedia Systems (Camera System)

Los Angeles, California

2025 – Present

### **Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Bytedance Ltd., Bytedance Pte. Ltd., TikTok Pte. Ltd., and TikTok Inc.

*ShopSee, Inc. v. Tiktok, Inc.*

*USDC Western District of Texas*

*Civil Action 7:24-cv-00333-DC-DTG*

Multimedia Systems (Video Processing)

Redwood Shores, California

2025 – Present

**Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of ASUSTeK Computer Inc. and ASUS Computer International  
*Nokia Technologies Oy v. ASUSTeK Computer Inc. and ASUS Computer International*  
*International Trade Commission*  
*ITC 337-TA-1448*  
Multimedia Systems (Video Coding)  
Washington, D.C.  
2025 – Present

**Consultant and Expert Witness**

O'Melveny & Myers LLP on behalf of [TBA]  
[TBA]  
*Unified Patent Court (UPC) Munich Regional Court*  
Multimedia Systems (Video Coding)  
Los Angeles, California  
2025 – Present

**Consultant and Expert Witness**

O'Melveny & Myers LLP on behalf of [TBA]  
[TBA]  
*Unified Patent Court (UPC) Mannheim Local division*  
Multimedia Systems (Video Coding)  
Los Angeles, California  
2025 – Present

**Consultant and Expert Witness**

O'Melveny & Myers LLP on behalf of [TBA]  
[TBA]  
*Unified Patent Court (UPC) Dusseldorf Local Division*  
Multimedia Systems (Video Coding)  
Los Angeles, California  
2025 – Present

**Consultant and Expert Witness**

O'Melveny & Myers LLP on behalf of [TBA]  
[TBA]  
*7th Corporate Court of the District of the Capital of the State of Rio De Janeiro in Brazil*  
Multimedia Systems (Video Coding)  
Los Angeles, California  
2025 – Present

**Consultant and Expert Witness**

O'Melveny & Myers LLP on behalf of [TBA]  
[TBA]  
*USDC Central District of California*  
*Civil Action No. [TBA]*  
Multimedia Systems (Video Coding)  
Los Angeles, California  
2025 – Present

**Consultant and Expert Witness**

Freshfields US LLP on behalf of [TBA]

[TBA]

*Judicial Arbitration and Mediation Services (JAMS)*

*Reference No. 5240003267*

Multimedia Systems (Video Coding)

New York, New York

2025 – Present

**Consultant and Expert Witness**

Venable, LLP on behalf of Lenovo Group Limited, Lenovo (United States) Inc., and Motorola Mobility LLC

*C47 Technologies LLC v. Lenovo Group LTD*

*USDC Eastern District of Texas*

*Civil Action No. 2:24-cv-00372-JRG*

*Civil Action No. 2:24-cv-00406-JRG*

Multimedia Systems (Image Processing)

Chicago, Illinois

2025 – Present

**Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

*Headwater Research LLC v. Samsung Co., Ltd et al.*

*USDC Eastern District of Texas*

*Civil Action No. 2:24-cv-00627-JRG-RSP*

Multimedia Systems (Multimedia Communications)

Atlanta, Georgia

2025 – Present

**Consultant and Expert Witness**

DLA Piper LLP on behalf of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

*Maxell Ltd. v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.*

*USDC Eastern District of Texas*

*Civil Action No. 5:25-cv-00052*

Multimedia Systems (Display Devices)

Boston, Massachusetts

2025 – Present

**Consultant and Expert Witness**

Wilson Sonsini Goodrich & Rosati P.C. on behalf of SZ DJI Technology Co. Ltd.

*Contour IP Holding, LLC v. SZ DJI Technology Co. Ltd.*

*Inter Partes Review*

*U.S. Patent Trial and Appeal Board*

Multimedia Systems (Camera Systems)

Palo Alto, California

2025 – Present

**Consultant and Expert Witness**

DLA Piper LLP on behalf of Citrix Systems, Inc.

*T5.2 Ltd. v. Citrix Systems, Inc.*

*USDC Southern District of Florida*  
*Civil Action No. 0:24-cv-62093*  
Multimedia Systems (Graphics Systems)  
Austin, Texas  
2025 – Present

**Consultant and Expert Witness**

Merchant & Gould P.C. on behalf of Coretronic Corp. and Optoma Corp.  
*Maxell, Ltd. v. Coretronic Corp. and Optoma Corp.*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Display Devices)  
Washington, D.C.  
2025 – Present

**Consultant and Expert Witness**

Merchant & Gould P.C. on behalf of Coretronic Corp. and Optoma Corp.  
*Maxell, Ltd. v. Coretronic Corp. and Optoma Corp.*  
*USDC Eastern District of Texas*  
*Civil Action No. 5:24-cv-00088*  
Multimedia Systems (Display Devices)  
Washington, D.C.  
2025 – Present

**Consultant and Expert Witness**

Orrick, Herrington & Sudcliffe LLP, on behalf of Motorola Mobility LLC  
*Multifold International Inc. Pte. Ltd. v. Motorola Mobility LLC*  
*USDC District of Delaware*  
*Civil Action No. 1:23-cv-1173*  
Multimedia Systems (Multi-Screen Devices and User Interfaces)  
Los Angeles, California  
2025 – Present

**Consultant and Expert Witness**

Hogan Lovells international LLP on behalf of Amazon Digital UK Limited, Amazon Europe Core SARL, Amazon EU SARL, Amazon.com, Inc. and Amazon Media EU SARL  
*Alcatel Lucent SAS et al. v. Amazon Digital UK Limited et al.*  
*High Court of Justice – Business and Property Courts of England and Wales*  
*Intellectual Property List (ChD) – Patents Court*  
*Case No. HP-2023-000038*  
Multimedia Systems (Video Coding)  
London, United Kingdom  
2025 – Present

**Consultant and Expert Witness**

DLA Piper LLP on behalf of Amazon.com, Inc., Amazon.com Services LLC, Amazon Web Services, Inc., and Twitch Interactive, Inc.  
*NL Giken Inc. v. Amazon.com et al.*  
*USDC District of Delaware*  
*Civil Action No. 1:24-cv-00028-MN*  
Multimedia Systems (Video Systems)

Austin, Texas  
2025 – Present

**Consultant and Expert Witness**

Haynes and Boone, LLP, on behalf of Intel Corporation  
*General Video, LLC, v. Dell Inc. and Dell Technologies Inc.*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Multimedia Interfaces)  
Dallas, Texas  
2024 – Present

**Consultant and Expert Witness**

Arnold & Porter Kaye Scholer LLP, on behalf of Google LLC  
*EyesMatch Ltd. v. Samsung Electronics Co., Ltd. et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2-23-cv-00363*  
Multimedia Systems (Image Processing)  
San Francisco, California  
2024 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Bytedance Ltd., Bytedance Pte. Ltd.,  
TikTok Pte. Ltd., and TikTok Inc.  
*NTECH Properties, Inc. v. ByteDance Ltd. et al.*  
*USDC Eastern District of Texas*  
*Civil Action 2:24-cv-00130-JRG*  
Multimedia Systems (Video Streaming)  
San Francisco, California  
2024 – Present

**Consultant and Expert Witness**

Fenwick & West LLP on behalf of Amazon.com, Inc.  
*DivX, LLC v. Amazon.com, Inc. et al.*  
*USDC Eastern District of Virginia*  
*Civil Action No. 1:24-cv-02061-CMH-LRV*  
Multimedia Systems (Multimedia Streaming)  
Mountain View, California  
2024 – Present

**Consultant and Expert Witness**

Shook, Hardy & Bacon LLP on behalf of HP Inc.  
*Universal Connectivity Technologies Inc. v. HP Inc.*  
*USDC Northern District of California*  
*Civil Action No. 4:24-04097-YGR*  
Multimedia Systems (Multimedia Communication Systems)  
Kansas City, Missouri  
2024 – Present

**Consultant and Expert Witness**

Fenwick & West LLP on behalf of Amazon.com, Inc., Amazon.com Services, Inc., and Amazon Web Services, Inc.

*Flexiworld Tech., Inc. v. Amazon.com, Inc. et al.*

*USDC Western District of Washington*

*Civil Action No. 2:21-cv-01055-DGE*

Multimedia Systems (Video Streaming)

New York, New York

2024 – Present

**Consultant and Expert Witness**

Latham & Watkins, LLP on behalf of Google LLC

*Advanced Coding Technologies LLC v. Google LLC*

*USDC Eastern District of Texas*

*Civil Action No. 2:24-cv-00353*

Multimedia Systems (Video Coding)

Costa Mesa, California

2024 – Present

**Consultant and Expert Witness**

Bayes PLLC on behalf of Linkplay Technology Inc.

*Sonos, Inc. v. Linkplay Technology Inc.*

*USDC District of Delaware*

*Civil Action No. 1:24-cv-00131-UNA*

Multimedia Systems (Audio Systems)

McLean, Virginia

2024 – Present

**Consultant and Expert Witness**

Knobbe, Martens, Olson & Bear, L.L.P. on behalf of Amazon.com, Inc., Amazon.com Services, LLC, and Amazon Web Services, Inc.

*Audio Pod IP, LLC v. Amazon.Com, Inc. et al.*

*USDC Eastern District of Virginia*

*Civil Action No. 2:24-cv-00185*

*Civil Action No. 2:24-cv-00406*

*Civil Action No. 2:24-cv-00407*

Multimedia Systems (Multimedia Synchronization)

Seattle, Washington

2024 – Present

**Consultant and Expert Witness \***

Fish & Richardson, P.C. on behalf of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

*Headwater Research LLC v. Samsung Co., Ltd et al.*

*USDC Eastern District of Texas*

*Civil Action No. 2:23-cv-00641-JRG-RSP*

Multimedia Systems (Multimedia Communications)

Atlanta, Georgia

2024 – Present

**Consultant and Expert Witness**

Hueston Hennigan LLP on behalf of Amazon.Com, Inc., Amazon Web Services, Inc., and Amazon.com Services, LLC.

*Kaifi LLC v. Amazon.Com, Inc. et al.*

*USDC Eastern District of Texas*

*Civil Action No. 2:2024-cv-00542-JRG*

Multimedia Systems (Speech Recognition)

Newport Beach, California

2024 – Present

**Consultant and Expert Witness**

Paul Hastings LLP on behalf of Samsung Electronics America, Inc. and Samsung Electronics Co., Ltd.

*Anonymous Media Research Holdings v. Samsung Electronics Co. et al.*

*USDC Eastern District of Texas*

*Civil Action No. 2:23-cv-00439-JRG*

Multimedia Systems (Pattern Recognition)

San Diego, California

2024 – Present

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.

Perkins Coie and Fenwick & West, on behalf of Amazon.com, Inc.

*Nokia Technologies Oy v. HP Inc.*

*USDC District of Delaware*

*Civil Action No. 1:23-cv-01237*

Multimedia Systems (Video Coding)

Palo Alto, California

2024 – Present

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.

Perkins Coie and Fenwick & West, on behalf of Amazon.com, Inc.

*Nokia Technologies Oy v. Amazon.com, Inc. et al.*

*USDC District of Delaware*

*No. 1:23-cv-01236-GBW*

Multimedia Systems (Video Coding)

Palo Alto, California

2024 – Present

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.

Perkins Coie and Fenwick & West, on behalf of Amazon.com, Inc.

*Nokia Corporation v. Amazon.com, Inc. et al.*

*USDC District of Delaware*

*No. 1:23-cv-01232-GBW*

Multimedia Systems (Video Coding)

Palo Alto, California

2024 – Present

**Consultant and Expert Witness \* \*\***

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.

Perkins Coie and Fenwick & West, on behalf of Amazon.com, Inc.  
*Nokia Technologies Oy v. HP Inc.*  
*International Trade Commission*  
*ITC 337-TA-1380*  
Multimedia Systems (Video Coding)  
Palo Alto, California  
2024 – Present

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.  
Perkins Coie and Fenwick & West, on behalf of Amazon.com, Inc.  
*Nokia Technologies Oy v. HP Inc.*  
*International Trade Commission*  
*ITC 337-TA-1379*  
Multimedia Systems (Video Coding)  
Palo Alto, California  
2024 – Present

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.  
*VideoLabs, Inc. v. HP, Inc.*  
*USDC Western District of Texas*  
*Civil Action No. 6:23-cv-0641*  
Multimedia Systems (Video Coding)  
Houston, Texas  
2023 – Present

**Consultant and Expert Witness**

Baker Botts, LLP, on behalf of Netflix, Inc.  
*Netflix, Inc. v. Broadcom, Avago, VMware, Brocade*  
Multimedia Systems (Multimedia Communications)  
San Francisco, California  
2024 – Present

**Consultant and Expert Witness \***

Fish & Richardson, P.C. on behalf of Microsoft Corporation  
*Proxense, LLC v. Microsoft Corporation*  
*USDC Western District of Texas*  
*Civil Action No. 6:2023-cv-00319*  
Multimedia Systems (Biometric and Security Systems)  
Houston, Texas  
2024 – Present

**Consultant and Expert Witness**

Tesla, Inc.  
*Monument Peak Ventures, LLC v. Tesla, Inc.*  
*USDC Western District of Texas*  
*Civil Action No. 6:23-cv-750*  
Multimedia Systems (Image Processing)  
Chicago, Illinois  
2024 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of ServiceNow, Inc.  
*InQuisient Inc. v. ServiceNow, Inc.*  
USDC District of Delaware  
Civil Action No. 22-900 (CJB)  
Multimedia Systems (Software Systems)  
Redwood City, California  
2024 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of GoPro Inc.  
*GoPro Inc. v. Arashi Vision, LLC (d/b/a “Insta360”)*  
USDC Central District of California  
Civil Action No. 4:23-cv-xxxx  
Multimedia Systems (Video Processing)  
Los Angeles, California  
2024 – Present

**Consultant and Expert Witness \* \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of GoPro Inc.  
*GoPro Inc. v. Arashi Vision, LLC (d/b/a “Insta360”)*  
International Trade Commission  
ITC 337-TA-1400  
Multimedia Systems (Video Processing)  
Los Angeles, California  
2024 – Present

**Consultant and Expert Witness**

Jones Day on behalf of JPMorgan Chase Bank, N.A.  
*Wapp Tech Limited Partnership et al. v. JPMorgan Chase Bank, N.A.*  
USDC Eastern District of Texas  
Civil Action No. 4:23-cv-1137  
Multimedia Systems (Software Applications)  
Chicago, Illinois  
2024 – Present

**Consultant and Expert Witness**

Perkins Coie LLP on behalf of Intel Corporation  
*Telefonaktiebolaget LM Ericsson v. Intel Corporation*  
Inter Partes Review  
U.S. Patent Trial and Appeal Board  
Multimedia Systems (Video Coding)  
Denver, Colorado  
2024 – Present

**Consultant and Expert Witness \***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of NVIDIA Corp.  
*Valeo Schalter und Sensoren GmbH v. NVIDIA Corp.*  
USDC Northern District of California  
Civil Action No. 23-cv-5721

Multimedia Systems (Computer Vision)  
New York, New York  
2024 – Present

**Consultant and Expert Witness**

Jones Day on behalf of Nikon Corporation  
*Optimum Imaging Technologies LLC v. Nikon Corporation*  
USDC Eastern District of Texas  
Civil Action No. 4:23-cv-00923  
Multimedia Systems (Image and Video Processing)  
Chicago, Illinois  
2024 – Present

**Consultant and Expert Witness \* \*\***

Morgan, Lewis & Bockius LLP on behalf of LG Electronics Inc. and LG Electronics U.S.A., Inc.  
*Multimedia Technologies Pte. Ltd. v. LG Electronics Inc., et al.*  
USDC Eastern District of Texas  
Civil Action No. 2:22-cv-00494-JRG-RSP  
Multimedia Systems (Television Systems)  
Washington, D.C.  
2024 – Present

**Consultant and Expert Witness**

Baker Botts, LLP, on behalf of Samsung Electronics Co., Ltd., Samsung Electronics America, Inc.,  
and Samsung Research America, Inc.  
*EyesMatch Ltd. v. Samsung Electronics Co., Ltd. et al.*  
USDC Eastern District of Texas  
Civil Action No. 2-23-cv-00363  
Multimedia Systems (Image Processing)  
Austin, Texas  
2024 – Present

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.  
*Nokia Technologies Oy v. HP Inc.*  
USDC District of Delaware  
Civil Action No. 1:23-cv-01237  
Multimedia Systems (Video Coding)  
Palo Alto, California  
2023 – Present

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.  
*Nokia Technologies Oy v. HP Inc.*  
International Trade Commission  
ITC 337-TA-1380  
Multimedia Systems (Video Coding)  
Palo Alto, California  
2023 – Present

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.  
*Nokia Technologies Oy v. HP Inc.*  
*International Trade Commission*  
*ITC 337-TA-1379*  
Multimedia Systems (Video Coding)  
Palo Alto, California  
2023 – Present

**Consultant and Expert Witness**

Fenwick & West LLP on behalf of Amazon.com, Inc.  
*Nokia Corp. et al. v. Amazon.com, Inc.*  
*USDC District of Delaware*  
*Civil Action No. 1:23-CV-1232*  
Multimedia Systems (Video Coding)  
Mountain View, California  
2023 – Present

**Consultant and Expert Witness**

Fenwick & West LLP on behalf of Amazon.com, Inc., Amazon.com Services LLC, and Twitch Interactive, Inc.  
*Nokia Techs. OY v. Amazon.com, Inc. et al.*  
*USDC District of Delaware*  
*Civil Action No. 1:23-CV-1236*  
Multimedia Systems (Video Coding)  
Mountain View, California  
2023 – Present

**Consultant and Expert Witness \* \*\***

Fish & Richardson, P.C. on behalf of Intel Corporation, Lenovo Group Limited, Lenovo (United States) Inc., and Motorola Mobility LLC  
*InterDigital, Inc. v. Lenovo et al.*  
*International Trade Commission*  
*ITC 337-TA-1373*  
Multimedia Systems (Video Coding)  
Washington, D.C.  
2023 – Present

**Consultant and Expert Witness**

Irell & Manella, LLP on behalf of Adeia Guides Inc, Adeia Media Solutions Inc. and Adeia Media Holdings LLC  
*Adeia Guides Inc, Adeia Media Solutions Inc. and Adeia Media Holdings LLC v. Shaw Cablesystems G.P. and Shaw Satellite G.P.*  
*USDC Southern District of New York*  
*Civil Action No. 1:2023-cv-08796*  
Multimedia Systems (Multimedia Communications)  
Los Angeles, California  
2023 – Present

**Consultant and Expert Witness \* \*\***

Latham & Watkins, LLP on behalf of Renesas Electronics Corporation  
*DivX LLC v. Renesas Electronics Corporation*

*Judicial Arbitration and Mediation Services (JAMS)*  
Reference No. 5240001028  
Multimedia Systems (Video Coding)  
Austin, Texas  
2023 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google LLC  
*Headwater Research LLC v. Samsung Electronics Co., et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:23-cv-00103-JRG-RSP*  
Multimedia Systems (Multimedia Communications)  
Los Angeles, California  
2023 – Present

**Consultant and Expert Witness \***

Morgan, Lewis & Bockius LLP on behalf of Post Acute Medical, LLC  
*Meridian Hospital Systems Corporation v. Post Acute Medical, LLC et al.*  
*190<sup>th</sup> District Court of Harris County, Texas*  
*Cause No. 2019-23790*  
Multimedia Systems (Software Systems)  
Houston, Texas  
2023 – Present

**Consultant and Expert Witness \***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of NantWorks, LLC and Nant Holdings IP, LLC  
*NantWorks, LLC, et al. v. Bank of America Corporation, et al.*  
*USDC Central District of California*  
*Civil Action No. 2:20-cv-07872-GW-PVC*  
Multimedia Systems (Image Processing)  
New York, New York  
2023 – Present

**Consultant and Expert Witness \***

Fish & Richardson, P.C. on behalf of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.  
*Advanced Coding Technologies LLC v. Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:22-cv-00499*  
Multimedia Systems (Video Coding)  
Washington, D.C.  
2023 – Present

**Consultant and Expert Witness \*\***

Fish & Richardson, P.C. on behalf of Samsung Electronics Co., Ltd.  
*Interdigital, Inc. v. Samsung Electronics Co., Ltd.*  
*International Chamber of Commerce (ICC) International Court of Arbitration*  
*Case No. 27699/PDP*  
Multimedia Systems (Video Coding)

Redwood City, California  
2023 – Present

**Consultant and Expert Witness**

Duane Morris LLP on behalf of AT&T Corp.  
*SafeCast Limited v. AT&T Corp.*  
USDC Western District of Texas  
Civil Action No. 6:22-cv-00676-ADA  
Multimedia Systems (Broadcast Systems)  
Atlanta, Georgia  
2023 – Present

**Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of DISH Network Corporation; DISH Network L.L.C.; DISH Network Service L.L.C and DISH Network California Service Corporation  
*Entropic Communications, LLC v. DISH Network Corp. et al.*  
USDC Central District of California  
Civil Action No. 2:2023-cv-01043  
Multimedia Systems (Multimedia Communications)  
Washington, D.C.  
2023 – Present

**Consultant and Expert Witness \* \*\***

Fish & Richardson, P.C. on behalf of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.  
*Headwater Research LLC v. Samsung Co., LTD and Samsung Electronics America, Inc.*  
USDC Eastern District of Texas  
Civil Action No. 2:22-cv-0422-JRG-RSP  
Multimedia Systems (Multimedia Communications)  
Atlanta, Georgia  
2023 – Present

**Consultant and Expert Witness**

Goldenberg Heller & Antognoli, P.C. and Arias Sanguinetti Wang & Torrijos LLP on behalf of Glenn Kesselman *et al.*  
*Kesselman v. Toyota Motor Sales, U.S.A., Inc.*  
USDC Central District of California  
Civil Action No. 2:21-cv-06010-AB-JC  
Multimedia Systems (Bluetooth Communications and Echo Cancellation)  
Edwardsville, Illinois  
2023 – Present

**Consultant and Expert Witness \* \*\***

Morgan, Lewis & Bockius LLP on behalf of HP, Inc.  
*VideoLabs, Inc. v. HP, Inc.*  
International Trade Commission  
ITC 337-TA-1341  
Multimedia Systems (Video Coding)  
Houston, Texas  
2023 – Present

**Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of Dolby Laboratories Licensing Corporation  
*Unified Patents, LLC v. Dolby Laboratories Licensing Corporation*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Video Coding)  
Washington, D.C.  
2023 – Present

**Consultant and Expert Witness**

Covington & Burling, LLP on behalf of Alps Alpine Co., Ltd.  
*DivX LLC v. Alps Alpine Co., Ltd.*  
*Judicial Arbitration and Mediation Services (JAMS)*  
*Reference No. 5240000289*  
Multimedia Systems (Video Coding)  
Palo Alto, California  
2022 – Present

**Consultant and Expert Witness**

Fenwick & West LLP on behalf of Amazon.com, Inc.  
*DivX, LLC v. Amazon.com, Inc.*  
*USDC Eastern District of Virginia*  
*Civil Action No. 1:22-cv-1201*  
Multimedia Systems (Multimedia Streaming)  
Mountain View, California  
2022 – Present

**Consultant and Expert Witness \* \*\***

Fenwick & West LLP on behalf of Amazon.com, Inc.  
*DivX, LLC v. Amazon.com, Inc.*  
*International Trade Commission*  
*ITC 337-TA-1343*  
Multimedia Systems (Multimedia Streaming)  
Mountain View, California  
2022 – Present

**Consultant and Expert Witness**

Perkins Coie LLP on behalf of DISH Network Corp., DISH Network L.L.C., and Dish Network Service L.L.C.  
*Entropic Communications, LLC v. DISH Network Corp. et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:22-cv-00076-JRG*  
Multimedia Systems (Video On-Demand Systems)  
Portland, Oregon  
2022 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Dental Imaging Technologies, Corp. and Dental Imaging Technologies, Corp. d/b/a DEXIS  
*3Shape A/S v. Carestream Dental LLC et al.*  
*USDC Northern District of Georgia*

*Civil Action No. 1:22-cv-01829-WMR*  
Multimedia Systems (Image Processing)  
New York, New York  
2022 – Present

**Consultant and Expert Witness \***

Baker Botts, LLP, on behalf of NEC Corporation  
*NEC Corporation v. Peloton Interactive, Inc., Our Body Electric, Inc. a/k/a Obe Fitness, Tone It Up, Inc., Gaia, Inc. and Yoga International, LLC*  
*USDC District of Delaware*  
*Civil Action No. 22-987-CFC*  
Multimedia Systems (Content Delivery)  
New York, New York  
2022 – Present

**Consultant and Expert Witness**

Foley & Lardner LLP on behalf of Vivint Smart Home, Inc. and Vivint, Inc.  
*Alarm.com v. Vivint Smart Home, Inc. and Vivint, Inc.*  
Multimedia Systems (Signal Processing)  
Salt Lake City, Utah  
2022 – Present

**Consultant and Expert Witness**

Arnold & Porter Kaye Scholer LLP, on behalf of itself and on behalf of Charter Communications Holding Company LLC, Charter Communications Inc., Charter Communications Operating LLC, and Spectrum Management Holding Company LLC  
Davis Polk & Wardwell LLP, on behalf of itself and on behalf of Comcast Cable Communications LLC, Comcast Corporation, and NBCUniversal Media, LLC  
Orrick Herrington & Sutcliffe LLP, on behalf of itself and on behalf of Altice USA Inc., CSC Holdings, LLC, and Cablevision Systems Corp.  
*Broadband iTV, Inc. v. Altice USA, Inc., et al.*  
*International Trade Commission*  
*ITC Dkt. No. 337-3616*  
Multimedia Systems (Video On-Demand Systems)  
San Francisco, California  
2022 – Present

**Consultant and Expert Witness**

Wilson Sonsini Goodrich & Rosati P.C. on behalf of Google LLC and YouTube LLC  
*Robocast, Inc. v. YouTube LLC*  
*USDC District of Delaware*  
*Civil Action No. 1-22-cv-00304*  
Multimedia Systems (Content Management)  
Washington, DC  
2022 – Present

**Consultant and Expert Witness**

DLA Piper LLP on behalf of Lenovo Group Ltd., Lenovo (United States) Inc., and Motorola Mobility LLC  
*Maxell, Ltd. v. Lenovo Group Ltd., et al.*  
*International Trade Commission*

*ITC 337-TA-1312*  
Signal Processing (Information Processing)  
Washington, D.C.  
2022 – Present

**Consultant and Expert Witness**

Orrick, Herrington & Sudcliffe LLP, on behalf of Altice USA, Inc. CSC Holdings, LLC, and Cablevision Systems Corp.  
*Broadband iTV, Inc. v. Altice USA, Inc., et al.*  
*International Trade Commission*  
*ITC 337-TA-1315*  
Multimedia Systems (Video On-Demand Systems)  
San Francisco, California  
2022 – Present

**Consultant and Expert Witness**

O'Melveny & Myers LLP on behalf of LG Electronics, Inc., and LG Electronics USA, Inc.  
*Image Processing Techs., LLC v. LG Electronics, Inc. and LG Electronics USA, Inc.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:22-cv-00077*  
Multimedia Systems (Video Streaming)  
San Francisco, California  
2022 – Present

**Consultant and Expert Witness**

Arnold & Porter Kaye Scholer LLP on behalf of Konka Group Co. Ltd. and Shenzhen Konka Electronic Technology Co., Ltd.  
*DivX LLC v. Konka Group Co. Ltd., et al.*  
*Judicial Arbitration and Mediation Services (JAMS)*  
*Reference No. 1240024614*  
Multimedia Systems (Video Coding)  
San Francisco, California  
2022 – Present

**Consultant and Expert Witness \***

Paul Hastings LLP on behalf of Samsung Electronics America, Inc.  
*AlmondNet, Inc. and Intent IQ, LLC v. Samsung Electronics America, Inc.*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Television Advertising)  
Washington, D.C.  
2022 – Present

**Consultant and Expert Witness \*(Examiner Interview)**

Fish & Richardson, P.C. on behalf of Dolby Laboratories Licensing Corporation  
*Unified Patents, LLC v. Dolby Laboratories Licensing Corporation*  
*Ex Partes Reexamination*  
*United States Patent and Trademark Office*  
Multimedia Systems (Video Coding)  
Washington, D.C.  
2022 – Present

**Consultant and Expert Witness \*\***

Lenczner Slaght LLP on behalf of Adeia Guides, Inc. and Adeia Media Holdings, LLC  
*Adeia Guides, Inc. and Adeia Media Holdings, LLC v. BCE Inc., Bell Canada, Bell Media Inc., Bell ExpressVu Limited Partnership, Northerntel, L.P., Telefonaktiebolaget L M Ericsson, Ericsson Canada Inc., MK Systems USA Inc., and MK Mediatech Canada Inc.*  
Federal Court of Canada  
Court File No. T-1184-21  
Multimedia Systems (Video Systems)  
Mountain View, California  
2022 – Present

**Consultant and Expert Witness**

Cooley LLP on behalf of Google LLC and YouTube, LLC  
*WAG Acquisition, LLC v. Google LLC and YouTube, LLC*  
USDC Western District of Texas  
Civil Action No. 6:21-cv-00816  
Multimedia Systems (Video Coding)  
Washington, DC  
2022 – Present

**Consultant and Expert Witness**

Fenwick & West LLP on behalf of Amazon.com, Inc., Amazon Web Services, Inc., and Amazon.com Services LLC  
*WAG Acquisition, LLC v. Amazon.com, Inc., Amazon Web Services, Inc., and Amazon.com Services LLC*  
USDC Western District of Texas  
Civil Action No. 6:21-cv-815-ADA  
Multimedia Systems (Video Coding)  
Mountain View, California  
2022 – Present

**Consultant and Expert Witness**

Fenwick & West LLP on behalf of Amazon.com, Inc., Amazon.com Services LLC, and Amazon Web Services, Inc.  
*DivX, LLC v. TCL Corporation et al.*  
*International Trade Commission*  
ITC 337-TA-3578  
Multimedia Systems (Multimedia Streaming)  
Mountain View, California  
2022

**Consultant and Expert Witness**

Fenwick & West LLP and MFSolomon Tax Consulting, LLC on behalf of Bloomberg, L.P. and Bloomberg Inc.  
*Bloomberg L.P., Bloomberg Inc., Tax Matter Partner, et al. v. Commissioner*  
United States Tax Court  
Docket Nos. 3755-17 and 3756-17  
Software Systems (User Interfaces)  
San Francisco, California  
2022 – Present

**Consultant and Expert Witness \* \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google LLC  
*Sonos, Inc. v. Google LLC*  
USDC Northern District of California  
Civil Action No. 3:20-cv-06754-WHA  
Civil Action No. 3:21-cv-07559-WHA  
Multimedia Systems (Signal and Audio Processing)  
San Francisco, California  
2022 – Present

**Consultant and Expert Witness**

Gibson, Dunn & Crutcher LLP on behalf of Dell Techs. Inc. and Dell Inc.  
*VideoLabs, Inc. v. Dell Techs. Inc. and Dell Inc.*  
USDC Western District of Texas  
Civil Action No. 6:21-cv-456-ADA  
Multimedia Systems (Video Coding)  
New York, New York  
2021 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Zebra Technologies Corporation  
*Honeywell Int'l Inc., Hand Held Products, Inc., and Metrologic Instruments, Inc. v. Zebra Technologies Corporation*  
USDC Western District of Texas  
Civil Action No. 6:21-cv-01010-ADA  
Multimedia Systems (Barcode Scanners)  
New York, New York  
2021 – Present

**Consultant and Expert Witness \***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Zebra Technologies Corporation  
*Honeywell Int'l Inc., Hand Held Products, Inc., and Metrologic Instruments, Inc. v. Zebra Technologies Corporation*  
International Trade Commission  
ITC 337-TA-1285  
Multimedia Systems (Barcode Scanners)  
New York, New York  
2021 – Present

**Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of MediaTek Inc. and MediaTek Singapore PTE Ltd.  
*DivX, LLC v. MediaTek, Inc. MediaTek Singapore PTE. Ltd.*  
USDC Eastern District of Texas  
Civil Action No. 2:21-cv-00306-JRG  
Multimedia Systems (Video Compression)  
Washington, D.C.  
2021

**Consultant and Expert Witness \* \*\***

Fish & Richardson, P.C. on behalf of The Chamberlain Group, Blackstone Management L.L.C. and Chariot Buyer LLC  
*Overhead Door Corporation and GMI Holdings, Inc. v. The Chamberlain Group et al.*  
*International Trade Commission*  
*ITC 337-TA-1209*  
Multimedia Systems (Signal Processing)  
Houston, Texas  
2021 – Present

**Consultant and Expert Witness \* \*\***

Baker Botts, LLP, on behalf of Motorola Solutions, Inc., Avigilon Corporation, Avigilon Fortress Corporation, Avigilon Patent Holding 1 Corporation, and Avigilon Technologies Corporation  
*Motorola Solutions, Inc. et al. v. Verkada Inc.*  
*International Trade Commission*  
*ITC 337-TA-1281*  
Multimedia Systems (Video Security)  
Washington, D.C.  
2021 – Present

**Consultant and Expert Witness**

Winston & Strawn LLP on behalf of Cloudflare, Inc.  
*Deniece Waidhofer et al. v. Cloudflare, Inc. et al.*  
*USDC Central District of California*  
*Civil Action No. 2:20-cv-06979-FMO-AS*  
Multimedia Systems (Image Processing and Communications)  
San Francisco, California  
2021 – Present

**Consultant and Expert Witness \***

Orrick, Herrington & Sudcliffe LLP, on behalf of DISH Network, LLC  
*Broadband iTV, Inc. v. DISH Network, LLC*  
*USDC Western District of Texas*  
*Civil Action No. 6:19-cv-00716*  
Multimedia Systems (Video On-Demand Systems)  
San Francisco, California  
2021 – Present

**Consultant and Expert Witness \***

Finnegan, Henderson, Farabow, Garrett & Dunner LLP on behalf of LG Electronics Inc. and LG Electronics U.S.A., Inc.  
*DivX, LLC v. Samsung Electronics Co., Ltd., et al.*  
*International Trade Commission*  
*ITC 337-TA-1222*  
Multimedia Systems (Multimedia Streaming)  
Atlanta, Georgia  
2021 – Present

**Consultant and Expert Witness \* \*\***

Crowell & Moring LLP on behalf of TCL Corporation, TCL Technology Group Corporation, TCL Electronics Holdings Limited, TTE Technology, Inc., Shenzhen TCL New Technologies Co. Ltd.,

TCL King Electrical Appliances (Huizhou) Co. Ltd., TCL MOKA International Limited, and TCL Smart Device (Vietnam) Co., Ltd.

*DivX, LLC v. Samsung Electronics Co., Ltd., et al.*

*International Trade Commission*

*ITC 337-TA-1222*

Multimedia Systems (Multimedia Streaming)

Atlanta, Georgia

2021 – Present

**Consultant and Expert Witness \***

Fish & Richardson, P.C. on behalf of Dolby Laboratories Licensing Corporation

*Unified Patents Inc. v. Dolby Laboratories Licensing Corporation*

*Inter Partes Review*

*U.S. Patent Trial and Appeal Board*

Multimedia Systems (Video Coding)

Washington, D.C.

2021 – Present

**Consultant and Expert Witness**

Daignault Iyer LLP on behalf of Onstream Media Corporation

*Onstream Media Corporation v. Facebook, Inc.*

*USDC Western District of Texas*

*Civil Action No. 6:19-cv-00708*

Multimedia Systems (Video Conferencing)

New York, New York

2021 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google LLC

*Sonos, Inc. v. Google LLC*

*USDC Western District of Texas*

*Civil Action No. 6:20-cv-881*

Multimedia Systems (Signal and Audio Processing)

San Francisco, California

2020 – Present

**Consultant and Expert Witness \***

Warren Lex on behalf of Google LLC

*WSOU Investments, LLC d/b/a/ Brazos Licensing and Development v. Google LLC*

*USDC Western District of Texas*

*Civil Action No. 6:20-cv-571*

*Civil Action No. 6:20-cv-580*

*Civil Action No. 6:20-cv-583*

*Civil Action No. 6:20-cv-585*

Multimedia Systems (Multimedia Streaming and Image Processing)

San Francisco, Illinois

2020 – Present

**Consultant and Expert Witness \***

Fish & Richardson, P.C. on behalf of Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Electronics HCMC CE Complex, Co., Ltd.

*DivX, LLC v. Samsung Electronics Co., Ltd., et al.*  
*International Trade Commission*  
*ITC 337-TA-1222*  
Multimedia Systems (Multimedia Streaming)  
Atlanta, Georgia  
2020 – Present

**Consultant and Expert Witness**

Jones Day on behalf of Google LLC  
*WSOU Investments, LLC d/b/a/ Brazos Licensing and Development v. Google LLC*  
*USDC Western District of Texas*  
*Civil Action No. 6:20-cv-574*  
*Civil Action No. 6:20-cv-579*  
*Civil Action No. 6:20-cv-582*  
Multimedia Systems (Multimedia Streaming and Image Processing)  
Minneapolis, Minnesota  
2020 – Present

**Consultant and Expert Witness**

Jones Day on behalf of Google LLC  
*WSOU Investments, LLC d/b/a/ Brazos Licensing and Development v. Google LLC*  
*USDC Western District of Texas*  
*Civil Action No. 6:20-cv-572*  
*Civil Action No. 6:20-cv-580*  
Multimedia Systems (Multimedia Streaming and Image Processing)  
Minneapolis, Minnesota  
2020 – Present

**Consultant and Expert Witness \* \*\***

Fenwick & West LLP on behalf of Amazon.com, Inc.  
*TrackTime, LLC. v. Amazon.com, Inc.*  
*USDC District of Delaware*  
*Civil Action No. 1:18-CV-01518*  
Multimedia Systems (Video Conferencing)  
Mountain View, California  
2020 – Present

**Consultant and Expert Witness \***

Fenwick & West LLP on behalf of Amazon.com, Inc.  
*MonkeyMedia, Inc. v. Amazon.com, Inc.*  
*USDC Western District of Texas*  
*Civil Action No. 1:20-cv-00010*  
Multimedia Systems (Video Conferencing)  
Mountain View, California  
2020 – Present

**Consultant and Expert Witness**

Goldberg Segalla LLP on behalf of Onstream Media Corporation  
*Onstream Media Corporation v. Facebook, Inc.*  
*USDC Western District of Texas*  
*Civil Action No. 6:19-cv-00708*

Multimedia Systems (Video Conferencing)  
New York, New York  
2020 – 2021

**Consultant and Expert Witness**

Fenwick & West LLP on behalf of Cloudflare, Inc.  
*Mon Cheri Bridals, LLC, et al. v. Cloudflare, Inc.*  
*USDC Northern District of California*  
*Civil Action No. 19-cv-01356-VC*  
Multimedia Systems (Image Processing and Communications)  
San Francisco, California  
2020 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google LLC  
*Google LLC v. SimpleAir, Inc.*  
*USDC Central District of California*  
*Civil Action No. 2:16-cv-3758-JAK-PLA*  
Multimedia Systems (Message Communications)  
San Francisco, California  
2020 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google LLC  
*SimpleAir, Inc. v. Google LLC*  
*USDC Central District of California*  
*Civil Action No. 2:20-cv-02839-JAK-PLA*  
Multimedia Systems (Message Communications)  
San Francisco, California  
2020 – Present

**Consultant and Expert Witness \* \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of KeyMe, LLC  
*The Hillman Group, Inc. v. KeyMe, LLC*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:19-cv-00209-JRG*  
*Civil Action No. 2:20-cv-00070-JRG*  
Multimedia Systems (Computer Vision and Automated Inspection)  
Los Angeles, California  
2020 – Present

**Consultant and Expert Witness**

Wolf, Greenfield & Sacks, P.C., Orrick, Herrington & Sutcliffe LLP, Fenwick & West LLP, and Egozi & Bennett, P.A. on behalf of Best Buy Co., Inc. and Best Buy Stores, LP (represented by Google, Inc., Amazon, Inc., Microsoft Corp., Dell Inc., Alienware Corp., HP Inc., BLU PRODUCTS)  
*Corydoras Technologies, LLC v. Best Buy Co., Inc., et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:19-cv-00304*  
Multimedia Systems (Audio-Visual Communications)  
Los Angeles, California

2020

**Consultant and Expert Witness \* \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google LLC  
*Sonos, Inc. v. Google LLC*  
*International Trade Commission*  
*ITC 337-TA-1191*  
Multimedia Systems (Signal and Audio Processing)  
Los Angeles, California  
2020 – Present

**Consultant and Expert Witness \* \*\***

O'Melveny & Myers LLP on behalf of Google LLC and YouTube, LLC  
*VideoShare, LLC v. Google LLC, et al.*  
*USDC Western District of Texas*  
*Civil Action No. 6:19-cv-00663-ADA*  
Multimedia Systems (Video Streaming)  
San Francisco, California  
2020 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Vizio, Inc.  
*Polaris Powered Technologies, LLC v. Vizio, Inc.*  
*USDC Central District of California*  
*Civil Action No. 8:18-CV-01571-JVS (DFMx)*  
Multimedia Systems (Television Displays)  
New York, New York  
2020

**Consultant and Expert Witness**

Hueston Hennigan, LLP on behalf of Peloton Interactive, Inc.  
*Peloton Interactive, Inc. v. Flywheel Sports, Inc.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:2018-cv-00390-RWS-RSP*  
*Civil Action No. 2:19-cv-00317-JRG-RSP*  
Multimedia Systems (Exercise System and Media Streaming)  
Los Angeles, California  
2020

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of GoPro, Inc.  
*Contour IP Holding, LLC v. GoPro, Inc.*  
*USDC Northern District of California*  
*Civil Action No. 3:17-cv-04738-WHO*  
Multimedia Systems (Camera Systems)  
San Francisco, California  
2019

**Consultant and Expert Witness \* \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google Inc.  
*Personalized Media Communications, LLC v. Google Inc. et al.*

*USDC Eastern District of Texas*  
*Civil Action No. 2:19-cv-00090-JRG*  
Multimedia Systems (Multimedia Processing and Communications)  
Los Angeles, California  
2019 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of DocuSign, Inc.  
*RPost Holdings, Inc. et al. v. DocuSign, Inc.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:12-cv-683-JRG*  
Multimedia Systems (Document Authentication and Message Verification)  
San Francisco, California  
2019

**Consultant and Expert Witness**

Mintz, Levin, Cohn, Ferris, Glovsky, and Popeo P.C. on behalf of GE Video Compression, LLC  
*Unified Patents Inc. v. GE Video Compression, LLC*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Video Coding)  
Boston, Massachusetts  
2019

**Consultant and Expert Witness**

Pepper Hamilton, LLP on behalf of Polycom, Inc.  
*directPacket Research, Inc. v. Polycom, Inc.*  
*USDC Eastern District of Virginia*  
*Civil Action No. 2:18-cv-331*  
Multimedia Systems (Multimedia Communications)  
Boston, Massachusetts  
2019 – Present

**Consultant and Expert Witness**

Feinberg Day Alberti Lim & Belloli LLP on behalf of Uniloc 2017 LLC  
*Uniloc 2017 LLC v. Verizon Communications Inc., et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:18-cv-00536-JRG*  
Multimedia Systems (Video Coding)  
Menlo Park, California  
2019 – 2020

**Consultant and Expert Witness \***

Feinberg Day Alberti Lim & Belloli LLP on behalf of Uniloc 2017 LLC  
*Uniloc 2017 LLC v. Netflix, Inc.*  
*USDC Central District of California*  
*Civil Action No. 8:18-CV-02055-JVS-DFM*  
Multimedia Systems (Video Coding)  
Menlo Park, California  
2019 – 2020

**Consultant and Expert Witness \* \*\***

Kasowitz Benson Torres LLP on behalf of MV3 Partners LLC  
*MV3 Partners LLC v. Roku*  
USDC Western District of Texas  
Civil Action No. 6-18-cv-00308  
Multimedia Systems (Video Communications)  
Redwood Shores, California  
2019 – Present

**Consultant and Expert Witness \***

Kasowitz Benson Torres LLP on behalf of MV3 Partners LLC  
*Unified Patents Inc. v. MV3 Partners LLC*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Video Communications)  
Redwood Shores, California  
2019 – Present

**Consultant**

Gibson, Dunn & Crutcher LLP on behalf of Cequel Communications, LLC, CSC Holdings, LLC,  
and Altice USA, Inc.  
Multimedia Systems (Video On-Demand Systems)  
New York, New York  
2019

**Consultant and Expert Witness \***

Baker Botts, LLP, on behalf of Samsung Electronics America, Inc.  
*Cypress Lake Software, Inc. v. Samsung Electronics America, Inc., Dell Inc.*  
USDC Eastern District of Texas  
Civil Action No. 6:18-cv-00030-RWS  
Multimedia Systems (Multimedia Streaming and User Interfaces)  
Washington, D.C.  
2018 – Present

**Consultant and Expert Witness \***

Jones Day on behalf of Samsung Electronics America, Inc. and Dell Inc.  
*Cypress Lake Software, Inc. v. Samsung Electronics America, Inc., Dell Inc.*  
USDC Eastern District of Texas  
Civil Action No. 6:18-cv-00030-RWS  
Civil Action No. 6:18-cv-00138-RWS  
Multimedia Systems (Multimedia Streaming and User Interfaces)  
Chicago, Illinois  
2018 – Present

**Consultant and Expert Witness \***

Paul Hastings LLP on behalf of YouTube, LLC and Google, LLC  
*Virentem Ventures, LLC, d/b/a Enounce v. YouTube, LLC and Google, LLC*  
USDC District of Delaware  
Civil Action No. 1:18-cv-00917  
Multimedia Systems (Multimedia Presentations and Broadcasts)  
Washington, D.C.

2018 – Present

**Consultant and Expert Witness**

Jones Day on behalf of HP Inc.

*Cypress Lake Software, Inc. v. ZTE (USA) Inc, HP Inc.*

*USDC Eastern District of Texas*

*Civil Action No. 6:17-cv-00300-RWS*

*Civil Action No. 6:17-cv-00462-RWS*

Multimedia Systems (Multimedia Streaming and User Interfaces)

Chicago, Illinois

2018 – Present

**Consultant and Expert Witness \***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Blackberry Limited

*BlackBerry Limited, et al. v. Facebook, Inc.*

*USDC Central District of California*

*Civil Action No. 2:18-cv-01844*

Multimedia Systems (Multimedia Storage and User Interfaces)

Los Angeles, California

2018 – Present

**Consultant and Expert Witness \***

Shook, Hardy & Bacon LLP on behalf of TASER International, Inc.

*Digital Ally, Inc. v. TASER International, Inc.*

*USDC District of Kansas*

*Civil Action No. 2:16-cv-02032- CM-JPO*

Multimedia Systems (Multimedia Recording)

Kansas City, Missouri

2018

**Consultant and Expert Witness**

Alston & Bird, LLP on behalf of ASUSTeK Computer Inc. and ASUS Computer International

*Maxell, Ltd. v. ASUSTeK Computer Inc. et al.*

*USDC Central District of California*

*Civil Action No. 2:17-cv-7528*

Multimedia Systems (Image and Video Processing)

Dallas, Texas

2018 – Present

**Consultant and Expert Witness \***

Covington & Burling, LLP on behalf of Huawei Device USA Inc. and Huawei Device Co., Ltd.

*Maxell, Ltd. v. Huawei Device USA Inc. et al.*

*USDC Eastern District of Texas*

*Civil Action No. 5:16-cv-00178-RWS*

Multimedia Systems (Image and Video Processing)

Redwood Shores, California

2018 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of NVIDIA Corp.

*ZiiLabs Inc., Ltd. v. NVIDIA Corp.*

*USDC District of Delaware*  
*Civil Action No. 1:17-cv-01370*  
*Civil Action No. 1:17-cv-01863*  
Multimedia Systems (Graphics Systems)  
San Francisco, California  
2018 – 2019

**Consultant and Expert Witness \***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of NVIDIA Corp.  
*ZiiLabs Inc., Ltd. v. NVIDIA Corp.*  
*International Trade Commission*  
*ITC 337-TA-1099*  
Multimedia Systems (Graphics Systems)  
San Francisco, California  
2018 – 2019

**Consultant and Expert Witness**

Mintz, Levin, Cohn, Ferris, Glovsky, and Popeo P.C. on behalf of Avigilon Corporation and Avigilon U.S.A. Corporation Inc.  
*Canon Inc. v. Avigilon Corp., et al.*  
*USDC Northern District of Texas*  
*Civil Action No. 3:17-cv-2733*  
Multimedia Systems (Video Security)  
Boston, Massachusetts  
2017 – 2020

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Qualcomm Incorporated  
Qualcomm Litigation  
*Qualcomm Incorporated v. Apple Inc.*  
*USDC Southern District of California*  
*Civil Action No. 17-cv-0108-GPC-MDD*  
Multimedia Systems (Image and Video Processing)  
San Francisco, California  
2018 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Qualcomm Incorporated  
Qualcomm Antitrust Litigation  
*Qualcomm Incorporated v. Apple Inc.*  
*USDC Northern District of California*  
*Civil Action No. 17-md-02773-LHK*  
Multimedia Systems (Image and Video Processing)  
San Francisco, California  
2018 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Qualcomm Incorporated  
*Federal Trade Commission v. Qualcomm Incorporated*  
*USDC Northern District of California*  
*Civil Action No. 5:17-cv-00220-LHK*

Multimedia Systems (Image and Video Processing)  
San Francisco, California  
2018 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Qualcomm Incorporated  
*Qualcomm Incorporated v. Apple Inc.*  
*USDC Southern District of California*  
*Civil Action No. 3:17-cv-02398-DMS-MDD*  
Multimedia Systems (Image and Video Processing)  
San Francisco, California  
2018 – Present

**Consultant and Expert Witness \***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Qualcomm Incorporated  
*Qualcomm Incorporated v. Apple Inc.*  
*International Trade Commission*  
*ITC 337-TA-1093*  
Multimedia Systems (Image and Video Processing)  
San Francisco, California  
2017 – 2018

**Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of ARRIS Enterprises LLC  
*ARRIS Enterprises LLC v. Sony Corporation*  
*International Trade Commission*  
*ITC 337-TA-1060*  
Multimedia Systems (Multimedia Streaming)  
Atlanta, Georgia  
2017

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google Inc.  
*Google Inc. v. SEVEN Networks, LLC*  
*USDC Northern District of California*  
*Civil Action No. 3:17-cv-04600-WHO*  
Multimedia Systems (Mobile Device Optimization)  
San Francisco, California  
2017 – Present

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google Inc.  
*SEVEN Networks, LLC v. Google Inc., et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:17-cv-00442-JRG*  
Multimedia Systems (Mobile Device Optimization)  
San Francisco, California  
2017 – Present

**Consultant and Expert Witness \*\***

Covington & Burling, LLP on behalf of Huawei Device USA Inc. and Huawei Device Co., Ltd.

*Optis Wireless Technology, LLC, et al., v. Huawei Technologies Co. Ltd., et al.*  
USDC Eastern District of Texas  
Civil Action No. 2:17-cv-00123-JRG  
Multimedia Systems (Video Coding)  
Redwood Shores, California  
2017 – Present

**Consultant and Expert Witness \***

Fish & Richardson, P.C. on behalf of Pace plc and Americas, LLC  
*Sony Corporation v. Pace plc et al.*  
*International Trade Commission*  
*ITC 337-TA-1049*  
Multimedia Systems (Multimedia Broadcasts)  
Atlanta, Georgia  
2017

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of PerDiemCo LLC  
*PerDiemCo LLC v. Telular Corp. et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:16-cv-01408*  
Multimedia Systems (Location Tracking)  
Washington, D.C.  
2017

**Consultant and Expert Witness \***

Baker Hostetler LLP on behalf of Funai Electric Co., Ltd. *et al.*  
*Funai Electric Company, Ltd. v. LSI Corp. et al.*  
(Involved exclusively with MPEG patents)  
*USDC Central District of California*  
*Civil Action No. 2:16-cv-01210-BLF*  
Multimedia Systems (Video Coding)  
Cincinnati, Ohio  
2017

**Consultant and Expert Witness \*\***

McDermott Will & Emery, LLP on behalf of Cummins-Allison Corp.  
*Arkeyo, LLC v. Cummins-Allison Corp.*  
*USDC Eastern District of Pennsylvania*  
*Civil Action No. 2:16-cv-04720*  
Multimedia Systems (Graphic Systems and User Interfaces)  
Chicago, Illinois  
2017

**Consultant and Expert Witness \***

Hueston Hennigan, LLP on behalf of ClearOne Inc.  
*ClearOne Inc. v. Shure, Biamp Systems, and QSC*  
*USDC Northern District of Illinois – Eastern Division*  
*Civil Action No. 17-CV-03078*  
Multimedia Systems (Audio Processing)  
Los Angeles, California

2017 – Present

**Consultant**

McDermott Will & Emery, LLP on behalf of Harman International Industries, Incorporated  
*Philips v. Harman International Industries, Incorporated*  
*German Court*  
Multimedia Systems (Audio Coding)  
Irvine, California  
2017 – Present

**Consultant and Expert Witness**

Dan Johnson Law Group, P.C. on behalf of Bridge and Post, Inc.  
*Bridge and Post, Inc. v. Verizon Communications, Inc. et al.*  
*USDC Eastern District of Virginia*  
*Civil Action No. 3:17-cv-094*  
Multimedia Systems (Multimedia Networks)  
South San Francisco, California  
2017

**Consultant and Expert Witness**

McKool Smith, P.C. on behalf of Nokia Technologies Oy  
*Nokia, Inc. v. Apple, Inc.*  
Multimedia Systems (Video Coding)  
Austin, Texas  
2017

**Consultant and Expert Witness**

Marc R. Labgold, P.C. to assist Nagashima, Hashimoto and Yasukuni on behalf of Funai Electric Co, Inc., Funai Corporation, Inc. and P&F USA Inc.  
*Personalized Media Communications, LLC v. Funai Electric Co., Ltd. et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2:16-cv-00105-JRG-RSP*  
Multimedia Systems (Multimedia Processing and Communications)  
Reston, Virginia  
2017

**Consultant and Expert Witness**

O'Melveny & Myers LLP on behalf of Advanced Micro Devices, Inc.  
*ZiiLabs Inc., Ltd. v. Advanced Micro Devices, Inc.*  
*International Trade Commission*  
*ITC 337-TA-3189*  
Multimedia Systems (Graphics Systems)  
Los Angeles, California  
2017

**Consultant and Expert Witness \***

Flachsbart & Greenspoon, LLC on behalf of Cascades Streaming Technologies, LLC  
*Cascades Streaming Technologies, LLC v. Big Ten Network, LLC*  
*USDC Northern District of Illinois*  
*Civil Action No. 13-cv-1455*  
Multimedia Systems (Video Streaming)

Chicago, Illinois  
2016 – 2017

**Consultant and Expert Witness**

Alston & Bird, LLP on behalf of Nokia, Inc.  
*Nokia, Inc. v. Apple, Inc.*  
Multimedia Systems (Video Coding)  
Dallas, Texas  
2016 – 2017

**Consultant and Expert Witness \* \*\***

Fish & Richardson, P.C. on behalf of Carl Zeiss AG and ASML Netherlands B.V.  
*Carl Zeiss AG and ASML Netherlands B.V. v. Nikon Corporation et al.*  
*International Trade Commission*  
*ITC 337-TA-1059*  
Multimedia Systems (Camera Systems and Image Processing)  
Washington, D.C.  
2016 – 2018

**Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of Pace plc and Americas, LLC  
*Sony Corporation v. Pace plc et al.*  
*USDC District of Delaware*  
*Civil Action No. 1:15-cv-00288-SLR*  
Multimedia Systems (Multimedia Broadcasts)  
Atlanta, Georgia  
2016 – 2017

**Consultant and Expert Witness**

Warren Lex LLP on behalf of Google Inc.  
*Philips v. Motorola Mobility LLC*  
*USDC District of Delaware*  
*Civil Action No. 15-cv-00472*  
Multimedia Systems (Audio Coding)  
San Francisco, California  
2016

**Consultant and Expert Witness \***

Winston & Strawn, LLP on behalf of Dell, Inc.  
*Audio MPEG, Inc. et al. v. Dell Inc.*  
*USDC Eastern District of Virginia (Norfolk Division)*  
*Civil Action No. 2:15-cv-00073*  
Multimedia Systems (Audio Coding)  
Chicago, Illinois  
2016 – 2017

**Consultant and Expert Witness**

Vinson & Elkins LLP on behalf of NBA Media Ventures, LLC, Turner Sports Interactive, Inc., and Turner Digital Basketball Services, Inc.; Goldman Ismail Tomaselli Brennan & Baum LLP on behalf of MLB Advanced Media, L.P.; Cowan DeBaets Abrahams & Sheppard LLP on behalf of GBTV, LLC; Mercury Radio Arts, Inc.; and Premiere Radio Networks, Inc.

*Front Row Technologies, LLC v. NBA Media Ventures, LLC et al.*  
*USDC of New Mexico*  
*Civil Action Nos. 1:10-cv-00433-JB-SCY and 1:12-cv-01309-JB-SCY*  
Multimedia Systems (Multimedia Streaming)  
Chicago, Illinois  
New York, New York  
2016

**Consultant and Expert Witness**

Vinson & Elkins LLP on behalf of NBA Media Ventures, LLC, Turner Sports Interactive, Inc., and Turner Digital Basketball Services, Inc.; Goldman Ismail Tomaselli Brennan & Baum LLP on behalf of MLB Advanced Media, L.P.; Cowan DeBaets Abrahams & Sheppard LLP on behalf of GBTV, LLC; Mercury Radio Arts, Inc.; and Premiere Radio Networks, Inc.  
*Front Row Technologies, LLC v. Turner Sports Interactive, Inc. et al.*  
*USDC of New Mexico*  
*Civil Action No. 1:13-cv-00636-JB-SCY*  
Multimedia Systems (Multimedia Streaming)  
Chicago, Illinois  
New York, New York  
Chicago, Illinois  
2016

**Consultant and Expert Witness**

Vinson & Elkins LLP on behalf of NBA Media Ventures, LLC, Turner Sports Interactive, Inc., and Turner Digital Basketball Services, Inc.; Goldman Ismail Tomaselli Brennan & Baum LLP on behalf of MLB Advanced Media, L.P.; Cowan DeBaets Abrahams & Sheppard LLP on behalf of GBTV, LLC; Mercury Radio Arts, Inc.; and Premiere Radio Networks, Inc.  
*Front Row Technologies, LLC v. NBA Media Ventures, LLC et al.*  
*USDC of New Mexico*  
*Civil Action No. 1:13-cv-01153-JB-SCY*  
Multimedia Systems (Multimedia Streaming)  
Chicago, Illinois  
New York, New York  
Chicago, Illinois  
2016

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of BlackBerry Limited  
*VStream Technologies, LLC v. BlackBerry Limited et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 6:15-cv-976-JRG-JDL*  
Multimedia Systems (Video Coding)  
Redwood Shores, California  
2016

**Consultant and Expert Witness**

Warren Lex LLP on behalf of Google Inc.  
*Nonend Inventions N.V. v. Motorola Mobility LLC*  
*USDC Eastern District of Texas*  
*Civil Action No. 15-cv-00472*  
Multimedia Systems (Multimedia Streaming)

San Francisco, California  
2016

**Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of Samsung Electronics America, Inc. and Samsung Electronics Co., Ltd.

*Personalized Media Communications, LLC v. Samsung Electronics America, Inc. and Samsung Electronics Co., Ltd.*

*USDC Eastern District of Texas*

*Civil Action No. 2:15-cv-01754-JRG-RSP*

Multimedia Systems (Multimedia Processing and Communications)

Washington, D.C.

2016 – 2017

**Consultant**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Technicolor, Inc.

Multimedia Systems (Video Coding)

Redwood Shores, California

2016 – 2017

**Consultant and Expert Witness \***

White & Case, LLP on behalf of Google Inc. *et al.*

*VideoShare, LLC v. Google Inc. et al.*

*USDC District of Delaware*

*Civil Action No. 13-990*

Multimedia Systems (Video Streaming)

New York, New York

2016

**Consultant and Expert Witness**

Harness, Dickey & Pierce, P.L.C. on behalf of Visage Imaging, Inc. and Pro Medicus, Ltd.

*3D Medical Imaging, LLC v. Visage Imaging, Inc. and Pro Medicus, Ltd.*

*USDC Northern District of Georgia (Gainesville District)*

*Civil Action No. 2:14-cv-00267*

Multimedia Systems (Medical Imaging)

Washington, D.C.

2016

**Consultant and Expert Witness \***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of PerDiemCo LLC

*PerDiemCo LLC v. Industrack LLC et al.*

*USDC Eastern District of Texas*

*Civil Action No. 2:15-cv-727*

Multimedia Systems (Location Tracking)

Washington, D.C.

2015 – 2016

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of PerDiemCo LLC

*PerDiemCo LLC v. GPS Logic Inc. et al.*

*USDC Eastern District of Texas*

*Civil Action No. 2:15-cv-1216*  
Multimedia Systems (Location Tracking)  
Washington, D.C.  
2015 – 2016

**Consultant and Expert Witness \***

Alston & Bird, LLP on behalf of ASUSTeK Computer, Inc. and ASUS Computer International  
*Avago Technologies General IP (Singapore) Pte. Ltd. v. ASUSTeK Computer, Inc. et al.*  
*USDC Northern District of California*  
*Civil Action No. 2:15-cv-00239*  
Multimedia Systems (Multimedia Coding)  
Dallas, Texas  
2015 – 2016

**Consultant and Expert Witness**

Akin Gump Strauss Hauer & Feld, LLP on behalf of Vimeo, LLC. *et al.*  
*VideoShare, LLC v. Vimeo, LLC. et al.*  
*USDC District of Delaware*  
*Civil Action No. 13-992*  
Multimedia Systems (Video Streaming)  
Washington, D.C.  
2015 – 2016

**Consultant and Expert Witness**

Baker Hostetler LLP on behalf of Funai Electric Co., Ltd. *et al.*  
*LSI Corp. et al. v. Funai Electric Company, Ltd. et al.*  
(Involved exclusively with MPEG patents)  
*USDC Central District of California*  
*Civil Action No. 2:12-cv-02047-AG-AJW*  
Multimedia Systems (Video Coding)  
Cincinnati, Ohio  
2015 – 2016

**Consultant and Expert Witness**

Akin Gump Strauss Hauer & Feld, LLP on behalf of Google Inc. *et al.*  
*VideoShare, LLC v. Google Inc. et al.*  
*USDC District of Delaware*  
*Civil Action No. 13-990*  
Multimedia Systems (Video Streaming)  
Washington, D.C.  
2015

**Consultant and Expert Witness**

Chen Malin, LLP on behalf of Realtek Semiconductor Corp.  
*Andrea Electronics Corp. v. Realtek Semiconductor Corp et al.*  
*International Trade Commission*  
*ITC 337-TA-949*  
Multimedia Systems (Audio Processing)  
Dallas, Texas  
2015

**Consultant and Expert Witness \*\***

Paul Hastings, LLP on behalf of Rovi Corporation *et al.*  
*Netflix Inc. v. Rovi Corporation et al.*  
USDC Northern District of California  
Civil Action No. 5:11-cv-06591  
Multimedia Systems (Television Systems and User Interfaces)  
Palo Alto, California  
2015

**Consultant and Expert Witness \***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Aylus Networks, Inc.  
*Aylus Networks, Inc. v. Apple, Inc.*  
USDC Northern District of California  
Civil Action No. 3:13-cv-4700-EMC  
Multimedia Systems (Video Streaming)  
Los Angeles, California  
2015 – 2016

**Consultant and Expert Witness \* \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google Inc.  
*SimpleAir, Inc. v. Google Inc., et al.*  
USDC Eastern District of Texas  
Civil Action No. 2:14-cv-00011-JRG  
Multimedia Systems (Message Communications)  
San Francisco, California  
2015

**Consultant and Expert Witness \***

O'Melveny & Myers LLP on behalf of Top Victory Electronics (Taiwan) Co., Ltd, TPV International (USA), Inc., Envision Peripherals, Inc., Top Victory Electronics (Fujian) Co., Ltd., TPV Electronics (Fujian) Co., Ltd., TPV Technology Limited, TPV Display Technology (Xiamen) Co., Ltd.  
*Hitachi Maxell, Ltd. v. Top Victory Electronics (Taiwan) Co. Ltd. et al.*  
USDC Eastern District of Texas (Marshall Division)  
Civil Action No. 2:14-cv-01121-JRG-RSP  
Multimedia Systems (Video Processing)  
Los Angeles, California  
2015 – 2016

**Consultant and Expert Witness \***

Shook, Hardy & Bacon LLP on behalf of Sprint Communications L.P.  
*Comcast Cable Communications, LLC et al. v. Sprint Communications Company L.P., et al.*  
USDC Eastern District of Pennsylvania  
Civil Action No. 2:12-cv-00859-JD  
Multimedia Systems (Video On-Demand Systems)  
Houston, Texas  
2015 – 2016

**Consultant and Expert Witness \***

Winston & Strawn, LLP on behalf of Dell, Inc. and Lenovo, Inc.  
*Nexus Display Technologies, LLC v. Dell, Inc.*

*USDC Eastern District of Texas (Marshall Division)*  
*Civil Action No. 2:14-cv-00762*  
Multimedia Systems (Multimedia Interfaces)  
Chicago, Illinois  
2015

**Consultant and Expert Witness**

Heim Payne & Chorush, LLP on behalf of Two-Way Media, Ltd.  
*Two-Way Media Ltd v. Verizon Communications Inc., Verizon Services Corp. and Verizon Online LLC*  
*Civil Action No. 14-1212-RGA*  
*USDC District of Delaware*  
Multimedia Systems (Multimedia Communications)  
Houston, Texas  
2015 – 2016

**Consultant and Expert Witness**

Jones Day on behalf of Kyocera Communications, Inc.  
*e-Watch, Inc., et al. v. Kyocera Communications, Inc.*  
*Civil Action Nos. 2:13-cv-01077 and 2:13-cv-01061*  
*USDC Eastern District of Texas*  
Multimedia Systems (Camera Systems and Image Communications)  
Washington, D.C.  
2015

**Consultant and Expert Witness**

Mayer Brown LLP on behalf of LG Electronics, Inc. and LG Electronics U.S.A., Inc.  
*Mondis Technology Ltd. v. LG Electronics, Inc., et al.*  
*Civil Action No. 2:15-cv-4431-SRC-CLW*  
*USDC Eastern District of New Jersey*  
Multimedia Systems (Video Communications)  
Washington, D.C.  
2014 – 2016

**Consultant and Expert Witness \***

Mayer Brown LLP on behalf of LG Electronics, Inc., LG Electronics U.S.A., Inc. and LG Electronics MobileComm U.S.A., Inc.  
*Advanced Micro Devices, Inc., and ATI Technologies ULC v. LG Electronics, Inc., et al.*  
*USPTO*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Video Display and User Interfaces)  
Washington, D.C.  
2014 – 2016

**Consultant and Expert Witness**

Ropes & Gray LLP on behalf of Olympus Corporation  
Multimedia Systems (Camera Systems and Image Processing)  
Tokyo, Japan  
2014

**Consultant and Expert Witness \***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Time Warner Cable Enterprises LLC, Time Warner Cable Texas LLC, Arris Group, Inc., Cisco Systems, Inc. and Casa Systems Inc.  
*C-Cation Technologies, LLC. v. Time Warner Cable Enterprises LLC, Time Warner Cable Texas LLC, Arris Group, Inc., Cisco Systems, Inc. and Casa Systems Inc.*  
*USDC Eastern District of Texas (Marshall Division)*  
*Civil Action No. 2:14-cv-59*  
Multimedia Systems (Cable Television and Multimedia Communications)  
New York, New York  
2014 – 2015

**Consultant and Expert Witness \***

Barlow & Co., LLC on behalf of Plexus Corp.  
*Plexus Corp. v. U.S.*  
*U.S. Court of International Trade*  
*CIT 13-00343*  
Multimedia Systems (Cable Television and Multimedia Communications)  
Washington, D.C.  
2014 – Present

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of Hewlett-Packard Company  
*Berkheimer v. Hewlett-Packard Company*  
*USDC Northern District of Illinois*  
*Civil Action No. 1:12-cv-09023*  
Multimedia Systems (Document and Graphic Systems)  
Chicago, Illinois  
2014 – 2015

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Google Inc.  
*Smartflash et al. v. Google Inc. et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 13-cv-448*  
Multimedia Systems (Multimedia Storage)  
San Francisco, California  
2014

**Consultant and Expert Witness**

Kilpatrick Townsend and Stockton LLP on behalf of Cisco Systems, Inc.  
*Custom Media, LLC v. Cisco Systems, Inc.*  
*USPTO*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Video Processing)  
Atlanta, Georgia  
2014 – 2015

**Consultant and Expert Witness**

Covington & Burling, LLP on behalf of Entropic Inc. and Entropic Communications, Inc.  
*ViXS Systems, Inc. and ViXS USA, Inc. v. Entropic Communications, Inc., et al.*

*International Trade Commission*  
*ITC 337-TA-915*  
Multimedia Systems (Multimedia Communications)  
San Diego, California  
2014

**Consultant and Expert Witness**

Merchant & Gould P.C. on behalf of TMM, Inc.  
*TMM, Inc. v. Dimension, Inc.*  
*USPTO*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Video Processing)  
New York, New York  
2014 – 2015

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Telecommunications America, LLC  
*Rockstar et al. v. Samsung Electronics Co., Ltd., et al.*  
*USDC Eastern District of Texas*  
*Civil Action Nos. 13-cv-0900-JRG, 2:13-cv- 00894-JRG*  
Multimedia Systems (Message Communications)  
New York, New York  
2014

**Consultant and Expert Witness**

Merchant & Gould P.C. on behalf of TMM, Inc.  
*TMM, Inc. v. Dimension, Inc.*  
*USPTO*  
*Inter Partes Review*  
*U.S. Patent Trial and Appeal Board*  
Multimedia Systems (Video Processing)  
New York, New York  
2014 – 2015

**Consultant and Expert Witness**

McDermott Will & Emery, LLP on behalf of Rovi Corporation  
*Netflix Inc. v. Rovi Corporation et al.*  
*USDC Northern District of California*  
*Civil Action No. 5:11- cv-06591*  
Multimedia Systems (Television Systems and User Interfaces)  
Menlo Park, California  
2014 – 2015

**Consultant and Expert Witness**

Desmarais, LLP on behalf of Intellectual Ventures I, LLC, and Intellectual Ventures II, LLC  
*Intellectual Ventures I & II v. Nikon Corp., et al.*  
(Involved exclusively with imaging patents)  
*USDC District of Delaware*  
*Civil Action No. 1:11-CV-1025-SLR*

Multimedia Systems (Digital Cameras and Image Processing)  
New York, New York  
2014 – 2015

**Consultant and Expert Witness**

Pepper Hamilton, LLP on behalf of FlashPoint Technology, Inc.  
*Flashpoint Technology, Inc. v. HTC Corporation and HTC America, Inc.*  
*USDC Eastern District of North Carolina, Western Division*  
*Civil Action No. 5:13-CV-00561-BO*  
Multimedia Systems (Camera Systems and User Interfaces)  
Boston, Massachusetts  
2013 – 2015

**Consultant and Expert Witness**

Winston & Strawn, LLP on behalf of ARRIS Group, Inc.  
*Video Streaming Solutions LLC v. ARRIS Group, Inc. et al.*  
*USDC Northern District of Illinois*  
*Civil Action No. 1:13-cv-03992*  
Multimedia Systems (Video Splicing and Multimedia Streaming)  
Chicago, Illinois  
2013

**Consultant and Expert Witness \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Barnes & Noble, Inc. and  
barnesandnoble.com LLC  
*Barnes & Noble, Inc. v. LSI Corp.*  
(Involved exclusively with MPEG patents)  
*USDC Northern District of California*  
*Civil Action No. 3:11-CV-2709-EMC*  
Multimedia Systems (Video Coding)  
San Francisco, California  
2013 – 2014

**Consultant and Expert Witness**

Kirkland & Ellis LLP on behalf of OpenTV, Inc.  
*OpenTV, Inc. v. Netflix, Inc.*  
*USDC District of Delaware*  
*Civil Action No. 1:12-CV-1733*  
Multimedia Systems (Multimedia Communications and Display)  
Chicago, Illinois  
2013

**Consultant and Expert Witness**

DLA Piper LLP and Adams & Adams on behalf of Multichoice Africa, Pty., a Naspers Group  
company  
*Barron & Verster v. Multichoice South Africa, Pty.*  
*Court of the Commissioner of Patents for the Republic of South Africa*  
Multimedia Systems (Video On-Demand Systems)  
East Palo Alto, California  
Pretoria, South Africa  
2013 – 2014

**Consultant and Expert Witness**

Akin Gump Strauss Hauer & Feld, LLP on behalf of Hilton Resorts Corp., Hilton Worldwide, Inc., and Hilton International Co.

*Ameranth, Inc. v. Hilton Resorts Corp., Hilton Worldwide, Inc., and Hilton International Co.*

*USDC Southern District of California*

*Civil Action No. 3:12-cv-01636-JLS-NLS*

*(Consolidated with Civil Action No. 3:11-cv-01810-JLS-NLS)*

Multimedia Systems (Multimedia Communications)

Los Angeles, California

2013

**Consultant and Expert Witness \* \*\***

McDermott Will & Emery, LLP on behalf of Panasonic Corporation and Panasonic Corporation of North America

*Black Hills Media, LLC v. Panasonic Corporation, et al.*

*International Trade Commission*

*ITC 337-TA-882*

Multimedia Systems (Audio Streaming)

Irvine, California

2013 – 2014

**Consultant and Expert Witness \***

Desmarais, LLP on behalf of Nokia Corporation and Nokia Inc.

*Nokia Inc. v. HTC Corp.*

*International Trade Commission*

*ITC 337-TA-885*

Multimedia Systems (Video Coding)

New York, New York

2013 – 2014

**Consultant and Expert Witness \* \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Telecommunications America, LLC

*Apple Inc. v. Samsung Electronics Co., Ltd., et al.*

*(Involved exclusively with counterclaims for patents asserted by Samsung Electronics)*

*USDC Northern District of California*

*Civil Action No. 12-cv-00630-LHK*

Multimedia Systems (Video Communications and Multimedia Synchronization)

Redwood Shores, California

2013 – 2014

**Consultant and Expert Witness**

Akin Gump Strauss Hauer & Feld, LLP on behalf of Wyndham Worldwide Corp., Hilton Hotels, and Omni Hotels Management Corp.

*Variant Holdings, LLC v. Hilton Hotels Holdings, et al.*

*(Involved exclusively with infringement analysis)*

*USDC Eastern District of Texas*

*Civil Action Nos. 2:11-cv-290, 2:11-CV-422, and 2:11-CV-427 (Consolidated)*

Multimedia Systems (Multimedia Communications)

Los Angeles, California

2013

**Consultant and Expert Witness \* \*\***

Desmarais, LLP on behalf of Intellectual Ventures I, LLC, and Intellectual Ventures II, LLC  
*Intellectual Ventures I & II v. Canon Inc., et al.*  
(Involved exclusively with imaging patents)  
*USDC District of Delaware*  
*Civil Action No. 1:11-CV-792*  
Multimedia Systems (Digital Cameras and Graphic Systems)  
New York, New York  
2012 – 2014

**Consultant and Expert Witness \* \*\***

McDermott Will & Emery, LLP on behalf of Funai Electric Co., Ltd. *et al.*  
*LSI Corp. and Agere Systems, Inc. v. Funai Electric Company, Ltd. et al.*  
(Involved exclusively with MPEG patents)  
*International Trade Commission*  
*ITC 337-TA-837*  
Multimedia Systems (Video Coding)  
Washington, D.C.  
2012 – 2013

**Consultant and Expert Witness \* \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of MediaTek, Inc. *et al.*  
*LSI Corp. and Agere Systems, Inc. v. Funai Electric Company, Ltd. et al.*  
(Involved exclusively with MPEG patents)  
*International Trade Commission*  
*ITC 337-TA-837*  
Multimedia Systems (Video Coding)  
New York, New York  
2012 – 2013

**Consultant & Expert Witness \***

Nixon & Vanderhye, P.C. on behalf of Touchtunes Music Corp.  
*Touchtunes Music Corp. v. Rowe International Corp., Arachnid, Inc., AMI Entertainment, Inc., and Merit Industries, Inc.*  
*USDC Southern District of New York*  
*Civil Action No. 07-cv-11450*  
Multimedia Systems (Jukebox Systems)  
Arlington, Virginia  
2012 – 2013

**Consultant and Expert Witness**

Jones Day on behalf of The MathWorks, Inc.  
*The MathWorks, Inc. v. AccelerEyes LLC et al.*  
*USDC Eastern District of Texas*  
*Civil Action No. 6:11-cv-0345*  
Multimedia Systems (Software Systems)  
Chicago, Illinois  
2012

**Consultant and Expert Witness**

Jones Day on behalf of The MathWorks, Inc.  
*The MathWorks, Inc. v. AccelerEyes LLC et al.*  
*USDC Northern District of Illinois*  
*Civil Action No. 1:11-cv-04645*  
Multimedia Systems (Software Systems)  
Chicago, Illinois  
2012

**Consultant and Expert Witness**

Shaw Keller, LLP and Nagashima & Hashimoto on behalf of Funai Electronic Co., Ltd., Funai Corporation, Inc., and P&F, USA, Inc.  
*Walker Digital, LLC v. D&M Holdings, Inc. et al.*  
*International Trade Commission*  
*ITC 337-TA-824*  
Multimedia Systems (Video Systems and User Interfaces)  
Chicago, Illinois  
2012

**Consultant and Expert Witness**

Winston & Strawn, LLP on behalf of Motorola Mobility, Inc.  
*Multi-Format, Inc. et al. v. Motorola Mobility, Inc. et al.*  
*USDC Northern District of Illinois*  
*Civil Action No. 1:11-cv-05145*  
Multimedia Systems (Multimedia Production)  
Chicago, Illinois  
2011 – 2012

**Consultant and Expert Witness \* \*\***

Heptig Law Group, Ltd and Cooley, LLP on behalf of Realtime Data, LLC  
*Realtime Data, LLC v. MetroPCS Texas et al.*  
(Involved exclusively with infringement analysis)  
*USDC Eastern District of Texas*  
*Civil Action No. 6:10-cv-00493-LED*  
Multimedia Systems (Video Communication)  
Dallas, Texas  
2011 – 2013

**Consultant and Expert Witness**

Patterson & Sheridan, LLP on behalf of SmugMug, Inc.  
*VPS, LLC v. SmugMug, Inc.*  
*USDC Northern District of Illinois*  
*Civil Action No. 10-cv-2142*  
Multimedia Systems (Image Storage and Retrieval)  
Dallas, Texas  
2011 – 2013

**Consultant and Expert Witness**

Morgan, Lewis & Bockius LLP on behalf of the University of Pittsburgh of the Commonwealth System of Higher Education

*University of Pittsburgh of the Commonwealth System of Higher Education v. Varian Medical Systems, Inc.*

*USDC Western District of Pennsylvania*

*Civil Action No. 2:08-cv-01307-AJS*

Multimedia Systems (Image Processing)

Washington, D.C.

2011

**Consultant and Expert Witness \* \*\***

Morgan, Lewis & Bockius LLP on behalf of ActiveVideo Networks, Inc.

*ActiveVideo Networks, Inc. v. Verizon Communications, Inc.*

(Involved exclusively with claims for patents asserted by ActiveVideo Networks)

*USDC Eastern District of Virginia*

*Civil Action No. 2:10-cv-248 RAJ/FBS*

Multimedia Systems (Cable Television and Multimedia Communications)

Palo Alto, California

2011

**Consultant**

Ropes & Gray LLP on behalf of Motorola Mobility, Inc.

*Motorola Mobility, Inc. et al. v. Microsoft Corp.*

*USDC Washington and*

*International Trade Commission*

*ITC 337-TA-2770*

Multimedia Systems (Video Coding)

East Palo Alto, California

2010 – 2011

**Consultant and Expert Witness**

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Motorola Mobility, Inc.

*Motorola Mobility, Inc. v. Apple Inc.*

*USDC Southern District of Florida*

*Civil Action No. 1:10cv023580-Civ-UU*

Multimedia Systems (Television Systems and User Interfaces)

New York, New York

2011 – 2014

**Consultant and Expert Witness**

Irell Manella, LLP on behalf of TiVo Inc.

*Microsoft Corp. v. TiVo Inc. and AT&T Inc. v. TiVo Inc.*

*USDC Northern District of California*

*Civil Action No. C 10-00240 and CV 10-01059*

Multimedia Systems (Video Systems and User Interfaces)

Los Angeles, California

2010

**Consultant and Expert Witness \* \*\***

Quinn Emanuel Urquhart & Sullivan, LLP on behalf of Cablevision Systems Corp.

*Cablevision Systems Corp. v. Verizon Communications, Inc.*

(Involved exclusively with infringement analysis)

*International Trade Commission*

ITC 337-TA-712

Multimedia Systems (Cable Television and Multimedia Communications)

New York, New York

2010 – 2011

**Consultant & Expert Witness \***

Keker and Van Nest, LLP and Latham and Watkins, LLP on behalf of Broadcom Co.

*Broadcom Corp. v. SiRF Technology, Inc. and CSR plc*

(Involved exclusively with graphics imaging patents)

*USDC Central District of California*

*Civil Action No. SACV08-546 JVS (MLGx)*

Multimedia Systems (Graphics Processing and Display Systems)

San Francisco, California

2010 – 2011

**Consultant & Expert Witness \***

Winston & Strawn, LLP on behalf of Lear Group, Ltd.

*Chamberlain Group, Inc. v. Lear Corp., Ltd*

*USDC Northern District of Illinois*

*Civil Action No. 05-cv-3449*

Multimedia Systems (Signal Processing)

Chicago, Illinois

2009 – 2011

**Consultant and Expert Witness \* \*\***

Jones Day on behalf of Arris Group, Inc.

*Arris Group, Inc. v. SeaChange International, Inc.*

*USDC District of Delaware*

*Civil Action No. 01-011 (JJF)*

Multimedia Systems (Video On-Demand Systems)

Chicago, Illinois

2009 – 2012

**Consultant and Expert Witness**

Marshall, Gerstein & Borun, LLP on behalf of Charter Communications, Inc.

*Charter Communications, Inc. v. Verizon Communications, Inc.*

*USDC Eastern District of Virginia*

*Civil Action No. 3:08-cv-850*

Multimedia Systems (Multimedia Networks)

Chicago, Illinois

2009

**Consultant & Expert Witness \***

McAndrews, Held & Malloy, Ltd. on behalf of Broadcom Co.

*Broadcom Corp. v. SiRF Technology, Inc. and CSR plc*

(Involved exclusively with graphics imaging patents)

*USDC Central District of California*

*Civil Action No. SACV08-546 JVS (MLGx)*

Multimedia Systems (Graphics Processing and Display Systems)

Chicago, Illinois

2008 – 2010

**Consultant & Expert Witness \***

Choate, Hall, Stewart, LLP on behalf of Hewlett-Packard Co.  
*Polaroid Corp. v. Hewlett-Packard Co.*  
*USDC District of Delaware*  
*Civil Action No. 06-738 (SLR)*  
Multimedia Systems (Image Processing)  
Boston, Massachusetts  
2008

**Consultant & Expert Witness \***

Fish & Richardson, P.C. on behalf of Hewlett-Packard Co.  
*Polaroid Corp. v. Hewlett-Packard Co.*  
*USDC District of Delaware*  
*Civil Action No. 06-738 (SLR)*  
Multimedia Systems (Image Processing)  
San Diego, California  
2007 – 2008

**Consultant and Expert Witness**

Simpson, Thacher & Bartlett, LLP on behalf of Collaboration Properties, Inc.  
*Collaboration Properties, Inc. v. Tandberg ASA and Tandberg, Inc.*  
*USDC Northern District of California*  
*Civil Action No. C:05-1940*  
Multimedia Systems (Multimedia Communications)  
New York, New York  
2007

**Consultant and Expert Witness**

Marshall, Gerstein & Borun, LLP on behalf of Charter Communications, Inc.  
*Rembrandt Technologies, LP v. Charter Communications, Inc.*  
*USDC Eastern District of Texas*  
*Civil Action No. 2-05-CV-000443 (TJW)*  
Multimedia Systems (Multimedia Coding)  
Chicago, Illinois  
2006

**Consultant & Expert Witness**

Latham & Watkins, LLP on behalf of C-Cor  
*C-Cor v. SeaChange International, Inc.*  
*USDC District of Delaware*  
*Civil Action No. 01-011 (JJF)*  
Multimedia Systems (Video On-Demand Systems)  
New York, New York  
2006

**Consultant and Expert Witness**

Irell Manella, LLP on behalf of TiVo Inc. and Humax USA, Inc.  
*EchoStar Technologies Corp. v. TiVo Inc. and Humax USA, Inc.*  
*USDC Eastern District of Texas*  
*Civil Action No. 5-05CV-81 DF CMC*

Multimedia Systems (Multimedia Storage)  
Newport Beach, California  
2006

**Consultant & Expert Witness \***

Nixon & Vanderhye, P.C. on behalf of Touchtunes Music Corp.  
*1<sup>st</sup> Media Llc. v. Touchtunes Music Corp., Ecast, Inc., Fatburger Corp., and Rock-olo Manufacturing Corp.*  
*USDC District of Nevada*  
*Civil Action No. CV-S-05-1212-LDG-RJJ*  
Multimedia Systems (Jukebox Systems)  
Arlington, Virginia  
2006

**Consultant & Expert Witness**

Fitch, Even, Tabin & Flannery on behalf of SmartSignal Corp.  
*SmartSignal, Corp. v. Expert Microsystems, Inc.*  
*USDC Northern District of Illinois*  
*Civil Action No. 02-CV-7682*  
Multimedia Systems (Signal Processing and Pattern Recognition)  
Chicago, Illinois  
2005 – 2006

**Consultant**

Jones Day on behalf of International Business Machines (IBM) and Dell, Inc.  
*American Video Graphics, L.P. v. Hewlett-Packard Co. et al.*  
Multimedia Systems (Graphic Systems)  
Chicago, Illinois  
2004 – 2005

**Consultant and Expert Witness**

Fish & Richardson, P.C. on behalf of Xcelera Inc. and Mirror Image Internet, Inc.  
*Xcelera, Inc. et al. v. Speedera Networks, Inc.*  
*USDC District of Delaware*  
*Civil Action No. 04-0046*  
Multimedia Systems (Multimedia Networks)  
Wilmington, Delaware  
2004 – 2005

**Consultant and Expert Witness**

Latham & Watkins, LLP on behalf of AOL Time Warner Inc. and EarthLink, Inc.  
*Inline Connection Corporation v. AOL Time Warner Inc.*  
*USDC District of Delaware*  
*Civil Action No. 02-272*  
Multimedia Systems (Video Communications)  
New York, New York  
2003

**Consultant & Expert Witness \***

Latham & Watkins, LLP on behalf of 24/7 Media Inc.  
*Avenue A, Inc. v. 24/7 Media Inc.*

*USDC Western District of Washington*  
*Civil Action No. C02-868C*  
Multimedia Systems (Internet Advertising)  
New York, New York  
2003 – 2004

**Consultant & Expert Witness \***

Nixon & Vanderhye, P.C. on behalf of Touchtunes Music Corp.  
*Ecast, Inc. and Rowe International, Inc. v. Touchtunes Music Corp.*  
*USDC Northern District of California*  
*Civil Action No. C-01-4298 PJH*  
Multimedia Systems (Jukebox Systems)  
Arlington, Virginia  
2002 – 2004

**Consultant & Expert Witness**

Latham & Watkins, LLP on behalf of 24/7 Media, Inc.  
*24/7 Media, Inc. v. Valueclick, Inc. and Mediaplex, Inc.*  
*USDC Southern District of New York*  
*Civil Action No. 02-CV-0950 (NRB)*  
Multimedia Systems (Internet Advertising)  
New York, New York  
2002

**Consultant & Expert Witness \* \*\***

Latham & Watkins, LLP on behalf of nCUBE Corp.  
*nCUBE Corp. v. SeaChange International, Inc.*  
*USDC District of Delaware*  
*Civil Action No. 01-011 (JJF)*  
Multimedia Systems (Video On-Demand Systems)  
Chicago, Illinois  
2001 – 2002

**Notation:**

- \* Testified by deposition.
- \*\* Testified at trial or hearing.