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OBJECTIVE

The development of technologies & programs related to the efficient & secure creation, transmission, storage, and processing of information including design & optimization of systems which produce or use information, such as:

- Strategic Management of Intellectual Property
- Convergence of "Smart" Technologies & Business Models
- University / Industry Collaboration & Innovation
- Optimization of Computer / Network Architectures & Protocols
- Dynamic & Software-Defined Networks
- Signal/Image Processing, incl. Data Acquisition & Processing
- Novel Approaches to Cybersecurity for Systems & Data

SECTION/PAGE CROSS-REFERENCE

COVER LETTER / SUMMARY

This document is a career summary, description of work experience, list of presentations, publications, and funding summary, as well as references. It is essentially a cover letter combined with a CV.

My career has ventured between academic and industrial pursuits. As such, I have experienced the responsibilities of holding **leadership positions**, the privileges of working on **significant projects**, and the excitement of participating as an **academic researcher** and **technology entrepreneur**. Throughout these activities, I have maintained an active role in **professional service** as well as **consultancy**. These items are summarized below.

I have **primary expertise** in topics related to speech/image processing, distributed & autonomous system architecture, and optimization of IP-based networks under Quality of Service constraints. These areas include contemporary *"marketecture"* concepts such as the "Internet of Things" and "Smart Grid/Smart City" initiatives. I have authored many technical publications and US/International patents on these topics. I am often invited to contribute to well-known multidisciplinary reference volumes, and have published topical books or chapters in books including:

- *Smart Cities in Application: Healthcare, Policy, & Innovation* (Springer, 2019)
- *The Smart Grid as an Application Development Platform* (Artech House, 2018)
- *Smart Cities: Applications, Technologies, Standards, & Driving Factors* (Springer)
- *Advances in Computers* (Elsevier)
- *The IEEE/CRC Electrical Engineering Handbook* (IEEE Press)
- *The Encyclopedias of Electrical & Electronics Engineering* (Wiley)
- *Lecture Notes in Pure & Applied Mathematics* (Marcel Dekker)
- *Medicine Meets Virtual Reality: Global Healthcare Grid* (IOS Press)

Currently, I am the **Director** of a large-scale partnership with Jacobs Technology Group and NASA's Johnson Space Center (JSC). The **JSC Engineering, Technology and Science Program (JETS)** provides multidisciplinary facilities and expertise to design, implement, test, and analyze technologies & applications with direct bearing on space flight and extraterrestrial reconnaissance. The JETS program creates fully-loaded revenue exceeding $1M/yr and involves multiple students, faculty, and NASA experts in relevant projects.

As **co-Director** of the Texas State University (TXST) **"Connected Infrastructure" initiative for Education, Demonstration, and Research (CIEDAR)** (2019-2023), I engaged with industry partners to recruit members, define projects, and manage outcomes for a value-driven, multi-disciplinary consortium. The CIEDAR Consortium is a research, development, and demonstration testbed facility associated with the university's small business and startup company incubator, and is funded via appropriation from the State of Texas for long-term workforce development, economic stimulation, and technology validation.

The **JETS Program** and the **CIEDAR Consortium** have implications in several market verticals and social imperatives, including *"Smart"* and *"Connected"* devices, systems, applications, and other contemporary engineering issues in modern society as well as space exploration. These imperatives include energy & water management, "Internet of Things" implementations in various areas (e.g. agriculture and endangered species), technology optimization for municipal applications, and reconciliation of the“digital divide.”

As **Professor** (2008-2023) and **Director** (2013-2018) of the Ingram School of Engineering at TXST, I performed typical research, teaching, and academic administrative duties, including:

- Managing & mentoring academic & technical personnel, including tenure-track faculty members in Electrical, Computer, Industrial, Manufacturing, and Civil Engineering,
- Overseeing departmental budgets, expenditures, & endowments, and developing new academic buildings & research facilities,
- Directing the development & implementation of new academic programs at the graduate and undergraduate levels,
- Cultivating value-driven industrial partnerships, and developing relationships between multi-disciplinary programs to enhance research outcomes.

Previously, I held **executive leadership positions** in companies large and small. These positions were primarily focused on the high-tech computer networking, telecommunications and aerospace & defense sectors. A few previous leadership positions have included:

- Distinguished Technologist & Technical Director (Hewlett Packard/Compaq)
- Chief Technology Officer & Co-Founder (Power Tagging Technologies)
- Chief Architect & Vice President of Business Development (ZNYX Networks)
- Lead Systems Engineer & Principal Investigator (General Dynamics)

Throughout my career, I’ve been privileged to participate in several **significant projects**. These activities span vertical markets including aerospace & defense programs, medical electronics & automation systems, development of new academic programs, and successful launch of a startup company in the “Smart Grid” space. A few of the more interesting projects include:

- Developed & successfully commercialized a revolutionary approach to Smart Grid communication, asset control, geolocation, & distributed voltage optimization to enable resilient power management for “Smart Cities” ($20M+ startup investment).
- Designed two robotic imaging & diagnostic appliances for remote, intra-operative surgical consultation & automated cancer diagnostics with real-time doctor-in-the-loop control; and managed full clinical trials for both systems ($3M+ research funding).
- Flight tested & improved the Digital Terrain System for the AFTI/F-16 fighter aircraft to enhance situational awareness & enable automated maneuvers during pilot blackout ($7M+ program funding).
- Developed real-time 3D flight simulators using reconnaissance imagery, photogrammetric techniques, and measured/derived elevation data to enhance pilot training ($10M+ program funding)
- Created architectural concept & managed design & construction of multidisciplinary *Engineering & Science Building* named “Ingram Hall” ($120M construction envelope).

- Architected & deployed large-scale telecom networks & systems conforming with industry standards, including a regional implementation of *Internet2*.
- Designed & implemented an innovative, multidisciplinary graduate program combining Engineering, Science, Business, & Applied Arts ($7M+ budget).

As an **academic researcher**, I have successfully obtained and managed over $30M in grants & contracts from federal entities including the National Science Foundation (NSF), the National Institutes of Health (NIH), the National Institute of Science & Technology (NIST), and the National Aeronautics & Space Administration (NASA). I have also secured substantial funding from commercial partners including Cisco Systems, Agilent Technologies, Texas Instruments, Jacobs Engineering, 3Com, Bellsouth Telecommunications. Additionally, I have facilitated and secured donations from corporate partners in the form of financial support for research and in-kind equipment & software in excess of $3M.

As a **technology entrepreneur**, I have secured over $20M in equity and startup funding from industrial sources including Dominion/VDI, Lockheed/AstroLink, and others, as well as federal sources including NSF and NIH Small Business Innovations Research programs (SBIR). I have also participated in the acquistion of over $10M+ in debt-equity financing from private venture firms.

As an active **professional consultant**, I have provided technology & business consulting services for entities including Dominion Virginia Power, Verizon, Amazon, T-Mobile, Bank of Americs, AT&T Mobility, Alcatel-Lucent, American Express, Research In Motion, F5 Networks, Nortel Networks, Bellsouth Telecommunications, and LSU Medical Center, among many others.

I am active in **professional service**, and have served on numerous conference and industry program advisory boards, or have developed sessions/tracks at well-known international conferences. Recent conferences and programs include The Energy Thought Summit, IEEE Global Communications Conference (GLOBECOM), IEEE Int'l Conference on Communications (ICC), IEEE GreenTech, IEEE Smart City Summit, Ethernet Technology Summit, Server Design Summit, Int'l Conference on Digital Telecom (ICDT), and the IEEE Computer & Communications Workshop.

EDUCATION

8/95 **Doctor of Philosophy** — Texas A&M University
Electrical Engineering — College Station, TX

Thesis "Variable Rate Speech Coding Using Subband Measures of Spectral Flatness"
Advisor Dr. J. D. Gibson
GPA 3.9/4.0

5/91 **Master of Science** — Texas A&M University
Electrical Engineering — College Station, TX

Thesis "Data Compression Using Inverted Block Codes"
Advisor Dr. J. D. Gibson
GPA 3.5/4.0

5/86 **Bachelor of Science** — Texas A&M University
Electrical Engineering — College Station, TX

GPA 3.7/4.0 *(magna cum laude)*

PROFESSIONAL EXPERIENCE

2014–now JETS I/II Program — *Director*
Texas State University

Key Accomplishments:

- Developed & managed relationship and large-scale research funding program with Jacobs Engineering and NASA's Johnson Space Center (JSC).
- Established TXST as a "JETS Partner" organization for JETS-I (2014–2022) and JETS-II (2022–), supporting NASA's Johnson Space Center for critical engineering, technology and science outcomes.
- Secured over $25M in program funding via multiple Task Orders

2019–2023 Connected Infrastructure Program — *co-Director*
Texas State University

Key Accomplishments:

- Developed relationships with key industry partners, establishing "Smart City" research & development facilities.
- Developed & managed FCC-licensed private 5G/LTE wireless network to support research activities (WL2XMD), including threat detection and cybersecurity.
- Managed regional, highly secure LoRaWAN wireless network for low-rate, real-time data collection in multiple projects.

2013–2018 Ingram School of Engineering — *School Director*
Texas State University

Key Accomplishments:

- Created long-term vision, program & operational plans for the Ingram School
- Managed specification & design of new Engineering & Science Building "Ingram Hall" ($120M+, 160k asf).
- Administered operating budget ($500k+/yr) and endowment accounts ($250k+/yr).
- Developed & implemented hiring plans & staffing structure for academic programs and support staff.

Academic Programs:

- Launched & managed interdisciplinary graduate program "Master of Science, Major in Engineering" (five-year budget $7M+).
- Spearheaded development of Civil/Environmental Engineering undergraduate & graduate programs (five-year budget $25M+) incl. "Infrastructure Research Lab" ($15M+, 25k asf)
- Spearheaded development of campus-wide Cooperative Education Program.
- Managed initial & continuing ABET/EAC accreditation for four undergraduate programs (Electrical, Computer, Industrial, Manufacturing Engineering).

2013–2023 INGRAM SCHOOL OF ENGINEERING *Professor*
TEXAS STATE UNIVERSITY

Research:

- Developed "Smart Grid" technologies for registration & management of devices on the electrical distribution grid.
- Developed performance enhancements for Internet transport protocols & packet handling based on signal processing and Machine Learning (ML).
- Performed testing and evaluation for advanced network functions, including virtualized and containerized applications, cybersecurity, as well as "Internet of Things" (IoT) architectures and related technologies.
- Performed in-depth performance evaluation and cybersecurity testing of data security technologies via Machine Learning and Artificial Intelligence (ML/AI).

Academic & Service:

- Member, University Intellectual Property Committee (2009–).
- Faculty Senator, College of Science & Engineering (2012, 2019–2022).
- Instructor of Record for undergraduate & graduate courses, including *Electronic Devices* (EE 3350 & lab), *Computer Networks* (EE 4372/5372 & lab), *Digital Signal Processing* (EE 4377/5377 & lab), *Telecommunications* (EE 4376/5376 & lab), *Sr. Design* (EE 4390/4391).
- Conference session organizer and moderator (*IEEE ICC, IEEE Globecom, IEEE Computer Workshop, Digital 360 Summit, Ethernet Summit, Intl. Conf. Digital Telecom, Intl. Congress Sci. Tech. Appl. Services*, etc.)

2008–2013 INGRAM SCHOOL OF ENGINEERING *Assoc. Director/Professor*
TEXAS STATE UNIVERSITY

Administration – Developed new graduate program "Master of Science, Major in Engineering." Developed ABET Self-Study Reports for initial accreditation of Electrical

Engineering and Computer Engineering programs.

Research – Investigated Smart Grid systems and advanced technologies for broadband networking. Developed novel MAC/PHY layer for low-frequency power line communication. Developed performance enhancements for IP transport protocols.

2008–2010 Power Tagging Technologies, Inc. *Chief Technology Officer & co-Founder*
Boulder, CO

Corporate Governance – Member, Board of Directors (4/08–4/11). Evaluated / reviewed all corporate documents drafted by legal team. Oversight of stock valuation & strategic allocations. Recruitment of investors, capital, & technology partners.

Engineering Management – Managed Intellectual Property portfolio & patent strategy. Conceived, developed, & managed product architecture & system roadmap. Hired & trained engineering staff. Tasked & evaluated individual & group assignments. Evaluated competing technologies, products, & standards.

Product Architecture – Developed technologies & comprehensive product strategy for scalable, low-bandwidth Smart Grid communication system based on an OFDM(A) MAC/PHY layer, dynamic addressing derived from IPv6, & system / element management constructs based on CIM. Developed prototype systems, software, & signal processing technologies for development & manufacturing handoff.

Business Development – Authored proposals for successful federal grants (NSF SBIR Phase I & II). Initiated strategic, mutually beneficial relationships with business partners and prospective customers. Represented company interests in tradeshows, conferences, industry forums, etc.

2006–2008 ZNYX Networks, Inc. *Chief Architect, Systems & Solutions*
Fremont, CA

Product Architecture – Defined product & system architectures including ATCA, μTCA, and heterogeneous subsystems for highly secure networks. Worked with system-level software for highly scalable encryption (IPsec) & distributed, network-based processing applications. Evaluated embedded technologies incl. network processors, forwarding accelerators, transport system-on-chip devices, etc. Developed comprehensive deployment strategy for IPv6 including cybersecurity appliances & technologies.

Business Development – Created new business opportunities via a "pull strategy" with expansion markets. Prepared/presented business plans, and supporting materials for recruitment of expansion capital. Initiated strategic, mutually beneficial relationships with business partners and prospective customers.

Strategic Marketing – Authored technical publications, white papers, etc. to promote "best of breed" industry recognition. Participated in industry/trade show panels. Acted as Intel Embedded Communications Alliance (ICA/ECA) liaison.

2006–2006 SBE, Inc. *Principal Architect / Director Applications Engineering*

San Ramon, CA

Product Strategy – Evaluated existing/future products for viability. Composed technical literature & marketing collateral for DSP, iSCSI, and other embedded communications products.

Business Development – Engaged with customers to determine integration of products in next generation systems. Principal Solution Architect for customer qualification and solution proposal/delivery.

2000–2006 Hewlett-Packard *Distinguished Technologist / Technical Director*
Plano, TX

Principal Solution Architect – Technical Lead for development of carrier-grade servers based on Intel IA-32/64 NEBS systems and carrier-grade Linux (OSDL/CGL). Principal Architect for development of ATCA (PICMG 3.x) product strategy & development program ($20M+). Technical Lead for transport subsystem, manageability subsystem, and high-availability architecture of HP's ATCA product line. Composed/evaluated RFI/RFP/RFQ material for comprehensive outsourcing of ATCA subsystems.

Business Development – Technical liaison for China, Japan, Korea, and Asia-Pacific region as well as large customers in Europe and the Americas. Negotiated complex interaction between outsourced components, legacy technologies, and new development involving several internal product organizations and senior staff of potential customers. Participated in multiple large-system bid responses ($100M+).

Wireless Systems – Managed advanced development teams to analyze & specify media subsystem, radio access, intrusion detection/prevention, & application server systems of wireless telephony networks. Evaluated broadband wireless technologies for homeland security.

Technology Futures – Evaluated IETF initiatives (SIGTRAN, SIP) & monitored other standards organizations and industry forums (3GPP/2, SAF, DMTF, PICMG, NPF) to determine immediate & long term implications. Co-editor of SAF/HPI B.01.01 specification. Subject Matter Expert in corporate program to evaluate potential acquisitions.

1995–2002 Electrical & Computer Engineering *Asst./Assoc. Professor*
The University of Alabama at Birmingham

Academic – Taught Graduate Courses, incl. *Random Variables & Processes, Advanced Comm, Digital Comm, Digital Signal Proc., Image Proc., Info Theory, Real-time Signal Proc.*. Taught Undergraduate Courses, incl. *Advanced Engr. Math, Electrical Networks, Intermed. Microproc., Sr. Design.*

Telepathology – Developed *TelePath* digital imaging system for real-time, remote diagnosis of microscopic tissue segments during intra-operative anatomic pathology sessions. Designed & implemented novel segmentation, compression, & transmission algorithms for pathology specimen images to ensure diagnostic quality.

VoIP Testing – Created VIPER testbed network for real-time, end-to-end subjective evaluation of voice over IP (VoIP) technologies.

Internet2 – Principal Investigator for proposal, design, & implementation of Internet2 network (NSF vBNS).

1989–1995 ELECTRICAL ENGINEERING *Lecturer & Research Asst.*
TEXAS A&M UNIVERSITY

Developed sub-2kbps CELP speech codec using compound VQ for pitch and spectral coefficients. Developed variable-rate lag-dependent VQ for pitch coefficients (LIVQ) & entropy-driven VQ for spectral coefficients (split-band LSPVQ). Taught undergraduate courses incl. *Digital Systems Design* and *Electrical Circuits and Instrumentation*.

1988–1989 GENERAL DYNAMICS, FORT WORTH DIVISION *Lead Systems Engineer*
FT. WORTH, TX

Principal Investigator for $6M research project to flight–test and verify the operation of an embedded Digital Terrain System (DTS) on the AFTI/F–16 testbed aircraft. Designed software package for data reduction and post–flight analysis of telemetry data for various aircraft subsystems.

1986–1988 LTV AEROSPACE AND DEFENSE COMPANY *Systems Engineer*
GRAND PRAIRIE, TX

Software, architecture, & algorithm development for system to process reconnaissance imagery and 3–dimensional elevation database to simulate low–altitude flight.

RECENT CONSULTANCIES (Legal)

1. **Inter Partes Review of U.S. Patent 9,094,868** (2024–)
Parties: T-Mobile, AT&T, Verizon, Ericsson, Nokia v. Headwaters Partners II, LLC
Venue: Patent & Trial Appeal Board, USPTO, Alexandria VA
Law Firm: Holland & Knight, LLP for Plaintiff
Role: Expert Witness (Inter Partes Review)
Issue: Wireless Link Estimation (9,094,868)
Status: Petition & Declaration
2. **Inter Partes Review of U.S. Patent 9,413,502** (2024–)
Parties: T-Mobile, AT&T, Verizon, Ericsson, Nokia v. Headwaters Partners II, LLC
Venue: Patent & Trial Appeal Board, USPTO, Alexandria VA
Law Firm: Holland & Knight, LLP for Plaintiff
Role: Expert Witness (Inter Partes Review)
Issue: Wireless Backhaul via User Equipment (9,413,502)
Status: Petition & Declaration
3. **Civil Action No. 1:22-CV-01820** (2024–)
Parties: Daniel Alholm, et.al. v. Vrdolyak Law Group, LLC
Venue: US District Court, Northern District of Illinois
Law Firm: Spragens Law, PLC for Plaintiff
Role: Expert Witness (Asterisk System)
Issue: Allegation of illegally recorded calls
Status: Investigation, Expert Report, **Deposition**
4. **Civil Action No. 6:20-CV-00142-ADA** (2024)
Parties: UNM Rainforest Innovations v. ASUSTek Computer, Inc
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: The Shore Firm / Randolph Square IP / Offor-Evans LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: WiFi frame structures (8,265,096)
Status: Investigation, Expert Report
5. **Civil Action No. 6:21-cv-00672** (2022–2024)
Parties: VOIP-PAL.com Inc. v. Verizon, et.al.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Venable for Defendant
Role: Expert Witness (Invalidity)
Issue: Mobile telecommunications gateway (8,630,234 & 10,880,721)
Status: Investigation, Expert Report, **Deposition**, Summary Judgement
6. **Civil Action No. 6:21-cv-00668** (2022–2023)
Parties: VOIP-PAL.com Inc. v. Amazon, et.al.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Fisch Sigler for Defendant
Role: Expert Witness (Invalidity)
Issue: Mobile telecommunications gateway (8,630,234 & 10,880,721)
Status: Investigation, Expert Report, **Deposition**, Summary Judgement
7. **Civil Action No. 6:21-cv-00674** (2022)
Parties: VOIP-PAL.com Inc. v. T-Mobile USA, et.al.

Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Perkins Coie for Defendant
Role: Expert Witness (Invalidity)
Issue: Mobile telecommunications gateway (8,630,234 & 10,880,721)
Status: Investigation, Expert Report, Summary Judgement

8. **Civil Action No. 2:22-cv-00276** (2022–)
Parties: Orckit Corporation v. Cisco Systems, Inc.
Venue: US District Court, Eastern District of Texas, Marshall Division
Law Firm: Kobre & Kim for Plaintiff
Role: Expert Witness (Infringement)
Issue: LAG (7,545,740), MPLS (8,830,821), DPI (10,652,111), DCH (6,680,904)
Status: Expert Report, **Deposition**, Paused for IPR

9. **Civil Action No. 2:21-CV-394-JRG** (2022)
Parties: Parus Holdings v. Bank of America/Charles Schwab
Venue: US District Court, Eastern District of Texas, Marshall Division
Law Firm: Perkins Coie for Defendant
Role: Expert Witness (Invalidity)
Issue: Interactive Voice Response Systems (7,327,723)
Status: Investigation, Expert Report, Settled

10. **Civil Action No. 6:20-CV-01152-ADA** (2022)
Parties: Daedalus Blue v. Microsoft
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Bunsow DeMory, LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Cloud Computing Systems (8,381,209)
Status: Investigation, Expert Report, IPR

11. **File No. 5157.00001** (2022–)
Parties: G. Van Brunt v. Midea Products, et.al.
Venue: (unassigned)
Law Firm: Clemente Mueller for Plaintiff
Role: Expert Witness (Wrongful Injury)
Issue: Evaluation & Testing of Space Heater
Status: Investigation, Expert Report

12. **McCullers v. Sunbeam** (2022–)
Parties: McCullers v. Sunbeam, et.al.
Venue: (unassigned)
Law Firm: Adams Cross LLC for Plaintiff
Role: Expert Witness (Wrongful Injury)
Issue: Evaluation & Testing of Heating Pad
Status: Investigation, Expert Report

13. **Post Grant Review of U.S. Patent 11,134,041 (PGR2022-0050)** (2022–)
Parties: Shenzhen Svakom Technology Co., Ltd v. Danxiao Information Technology Ltd
Venue: Patent & Trial Appeal Board, USPTO, Alexandria VA
Law Firm: Orrick Herrington & Sutcliffe (and) Bochner, LLP for Plaintiff
Role: Expert Witness (Post Grant Review)
Issue: Remote Interactive Technologies (11,134,041)
Status: Expert Report

14. **Civil Action No. 6-20-cv-00493-ADA** (2022–2023)
Parties: WSOU Investments, LLC dba Brazos Licensing v. ZTE
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Kasowitz, Benson, Torres LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Bandwidth extension of an audio signal (9,294,060)
Status: Code Review, Expert Report
15. **Civil Action No. 6-20-cv-00480-ADA** (2022–2023)
Parties: WSOU Investments, LLC dba Brazos Licensing v. VMware Corp.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Kasowitz, Benson, Torres LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Preventing Congestion in Load-Balancing Networks (7,539,133)
Status: Code Review, Expert Report, **Deposition**, **Testimony**
16. **Civil Action No. 6-20-cv-00481-ADA** (2022–2023)
Parties: WSOU Investments, LLC dba Brazos Licensing v. VMware Corp.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Kasowitz, Benson, Torres LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Code Review – Optimizing Latencies in Cloud Systems (9,164,800)
Status: Expert Report, **Deposition**, **Testimony**
17. **Civil Action No. 6-20-cv-00486-ADA** (2022–2023)
Parties: WSOU Investments, LLC dba Brazos Licensing v. VMware Corp.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Kasowitz, Benson, Torres LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Monitoring Performance of a Scheduler (7,092,360)
Status: Code Review, Expert Report, **Deposition**, **Testimony**
18. **Civil Action No. 2:18-cv-00156** (2022–2024)
Parties: William Scott Taylor; WPEM, LLC; and W2W, LLC v. SOTI, Inc.
Venue: US District Court, Eastern District of Texas, Marshall Division
Law Firm: Kassab Law Group for Plaintiff
Role: Expert Witness (Infringement, Legal Malpractice)
Issue: Telematics Platform (9,148,762)
Status: Expert Report
19. **Cause No. 2021-47914** (2022–2024)
Parties: Ultra Communications Corp. v. PeaTalk Corp, Phillip Nguyen & Thu-Nga Vu
Venue: District Court, 152nd Judicial District, Harris County TX
Law Firm: Hendershot Cowart, PC for Plaintiff
Role: Expert Witness, Technical Investigation (Fraud)
Issue: 5G Communication Technology
Status: Technical Investigation & Discovery, Expert Report
20. **Civil Action 1:21-00534-MN-CJB** (2021–2022)
Parties: BearBox LLC & Austin Storms v. Lancium LLC, M.T. McNamara, & R.E. Cline
Venue: US District Court, District of Delaware
Law Firm: Marshall, Gerstein & Borun LLP for Plaintiff

Role: Expert Witness (Infringement, Legal Malpractice)
Issue: Bitcoin Mining & Energy Arbitrage Platform (10,608,433)
Status: Code Review, Expert Report, **Deposition**, **Testimony**

21. **Civil Action 6:20-cv-00454-ADA** (2021–2022)
Parties: WSOU Investments, LLC dba Brazos Licensing v. Microsoft Corp.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Susman Godfrey LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Code Review & Evaluation of Service Trend Estimation (7,366,160)
Status: Expert Report, **Deposition**

22. **Civil Action 6:20-cv-00461-ADA** (2021–2022)
Parties: WSOU Investments, LLC dba Brazos Licensing v. Microsoft Corp.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Susman Godfrey LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Highly Available AAA Function (7,106,702)
Status: Code Review, Expert Report, **Deposition**

23. **Civil Action 6:20-cv-00465-ADA** (2021–2022)
Parties: WSOU Investments, LLC dba Brazos Licensing v. Microsoft Corp.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Susman Godfrey LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Packet Loss Estimation Algorithm (8,274,902)
Status: Code Review, Expert Report, **Deposition**

24. **Civil Action 6:20-cv-00458-ADA** (2021–2022)
Parties: WSOU Investments, LLC dba Brazos Licensing v. Microsoft Corp.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: Susman Godfrey LLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Packet Call Routing System (7,388,868)
Status: Code Review, Expert Report

25. **Civil Action 4:19-cv-00263-ALM** (2019–2021)
Parties: Debra Nelson v. Sunbeam Products, Inc. dba Jarden Consumer Solutions
Venue: US District Court, Eastern District of Texas, Sherman Division
Law Firm: Callahan Law Firm for Plaintiff
Role: Expert Witness (Liability / Electrical Appliance)
Issue: Design Evaluation of Space Heater in Wrongful Injury Case
Status: Expert Report, **Deposition**, **Testimony** / Verdict for Plaintiff

26. **Civil Action 20-0007-RGA** (2020–2021)
Parties: Synkloud Technologies, Inc. v. Microsoft Corp.
Venue: US District Court, District of Delaware
Law Firm: Devlin Law Firm for Plaintiff
Role: Expert Witness (Infringement)
Issue: Cloud Platform
Status: Code Review, Expert Report, Claim Charts

27. **Civil Action 19-1360-RGA** (2020–2021)

Parties: Synkloud Technologies, Inc. v. HP, Inc.
Venue: US District Court, District of Delaware
Law Firm: Devlin Law Firm for Plaintiff
Role: Expert Witness (Infringement)
Issue: Cloud Platform
Status: Code Review, Expert Report, Claim Charts

28. **Civil Action 6:19-cv-00525-ADA** (2019–2020)
Parties: Synkloud Technologies, Inc. v. Dropbox, Inc.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: OneLLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Cloud Platform
Status: Code Review, Expert Report, Claim Charts

29. **Civil Action 6:19-cv-00526-ADA** (2019–2020)
Parties: Synkloud Technologies, Inc. v. Dropbox, Inc.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: OneLLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Cloud Platform
Status: Code Review, Expert Report, Claim Charts

30. **Civil Action 6:19-cv-00527-ADA** (2020–2021)
Parties: Synkloud Technologies, Inc. v. Adobe, Inc.
Venue: US District Court, Western District of Texas, Waco Division
Law Firm: OneLLP for Plaintiff
Role: Expert Witness (Infringement)
Issue: Cloud Platform
Status: Code Review, Expert Report, Claim Charts

31. **A.Salas-DeLeon v. Cargill/CCSGroup** (2019–2020)
Parties: A.Salas-DeLeon v. Cargill/CCSGroup
Venue: On-site investigation at Cargill facility in Kansas
Law Firm: Kherker Garcia Fass Hawley, LLP for Plaintiff
Role: Expert Witness (Workplace Liability / Industrial Accident)
Issue: Investigation of electrocution in Grain Silo
Status: Investigation, Expert Report

32. **Inter Partes Review of U.S. Patent 9,477,961** (2017–2018)
Parties: American Express Global Business Travel v. Charter Solutions, Intl
Venue: Patent & Trial Appeal Board, USPTO, Alexandria VA
Law Firm: K & L Gates, LLP for Plaintiff
Role: Expert Witness (Inter Partes Review)
Issue: Travel Management System & Location-Based Services (9,477,961)
Status: Petition & Declaration

33. **Case No. 2:16-cv-00082-JRG** (2016–2017)
Parties: St. Lawrence Communications v. Joint Defense Group / AT&T
Venue: US District Court, Eastern District of Texas, Marshall Division
Law Firm: Norton Rose Fulbright for Defendant
Role: Expert Witness (Infringement)

Issue: Voice Processing Algorithms for Networked Speech
Status: Investigation, Expert Report

34. **Case No. 6:13-CV-00638-RWS** (2014–2016)
Parties: Acquis, LLC v. Alcatel-Lucent, Inc.
Venue: US District Court, Eastern District of Texas, Tyler Division
Law Firm: Quinn Emanuel Urquhart & Sullivan, LLP for Defendant
Role: Expert Witness (Invalidity, Infringement)
Issue: Modular Computer Architecture
Status: Claim Charts, Expert Report

35. **Case No. 5:12-cv-02574 EJD (PSG)** (2013–2014)
Parties: Neustar/Quova v. F5 Networks
Venue: US District Court, Northern District of California, San Jose Division
Law Firm: K & L Gates, LLP for Defendant
Role: Expert Witness, Breach of Contract
Issue: Breach of Contract, Localization via DNS Pre-Processing
Status: Expert Report, **Deposition**

36. **Plaintiff v. HP/Sun/Dell** (2014)
Parties: HP/Sun/Dell v. Charles River Associates
Venue: US District Court, District of Delaware
Law Firm: Charles River Associates for Plaintiff
Role: Expert Witness (Infringement)
Issue: Blade Servers, System Architecture and Standards
Status: Investigation, Expert Report

37. **Case No. 1:2012cv00386** (2012–2013)
Parties: Research in Motion, Ltd v. Graphics Properties Holdings
Venue: US District Court, District of Delaware
Law Firm: Fish & Richardson for Defendant
Role: Expert Consultant (Infringement)
Issue: Computer Architecture
Status: Investigation, Expert Report

RECENT CONSULTANCIES (Technical)

- *Client:* Sertainty Corporation (2022–)
  Activity: Technical Advisory Board
- *Client:* Williams Hart Boundas Easterby, LLP (2019)
  Activity: Investigation / Liability / Electrical Appliance
- *Client:* Gerson Lehman Group Council of Advisors (2000–present)
  Activity: Various matters including legal and market consulting
- *Client:* National Science Foundation (2000–present)
  Activity: Reviewer & Panelist, SBIR Program
- *Client:* Department of Defense (2016 – 2021)
  Activity: Reviewer, DoD SMART Program

PATENTS & INTELLECTUAL PROPERTY

- **Texas State (2008 – present)**
  - *Inventor / Assignee:* S. McClellan, W. Peng, & E. Gonzalez / Texas State University
    Title: Optimization of retransmission timeout boundary
    Number & Status: USPTO 10,404,562 – Issued Sep. 2019
  - *Inventor / Assignee:* S. McClellan / Texas State University
    Title: Suppression of interference in power and communication signals
    Number & Status: USPTO 9,876,516 – Issued Jan. 2018
  - *Inventor / Assignee:* J. LoPorto & S. McClellan / Power Tagging Technologies
    Title: Intelligent power system and methods for its application
    Number & Status: USPTO 8,519,832 – Issued Aug. 2013
  - *Inventor / Assignee:* J. Shima & S. McClellan / Texas State University
    Title: Location mapping of grid devices via features of current disturbances
    Number & Status: PCT/US2015/014603 – Filed Feb. 2015
- **HP/Compaq (2000 – 2008)**
  - *Inventor / Assignee:* S. McClellan / Hewlett Packard
    Title: Active path selection for SCTP
    Number & Status: USPTO 7,193,971 – Issued Mar. 2007
  - *Inventor / Assignee:* S. McClellan & R. Reeves / Hewlett Packard
    Title: Fault-tolerant associations for IP transport protocols
    Number & Status: USPTO 7,111,035 – Issued Sep. 2006
  - *Inventor / Assignee:* S. McClellan / Hewlett Packard
    Title: Wireless network and methods for communicating in a wireless network
    Number & Status: 10/453,957 – Filed Jun. 2004
  - *Inventor / Assignee:* S. McClellan / Hewlett Packard
    Title: Wireless network and methods for data encryption and decryption in a wireless network
    Number & Status: 10/453,946 – Filed Jun. 2003
  - *Inventor / Assignee:* S. McClellan & M. Montz / Hewlett Packard
    Title: Wireless packet routing for minimal delay and simplification of packet routing
    Number & Status: 10/178,139 – Filed Jun. 2002
  - *Inventor / Assignee:* S. McClellan / Hewlett Packard
    Title: Network configuration management with proximity keys
    Number & Status: 10/036,143 – Filed Dec. 2001
- **UAB (1995 – 2000)**
  - *Inventor / Assignee:* S. McClellan, et.al / Bellsouth Telecommunications
    Title: Digital telepathology imaging system programmed for identifying image regions of potential interest and anticipating sequence of image acquisition
    Number & Status: WIPO WO/1999/030264A1 – Issued Jun. 1999
  - *Inventor / Assignee:* S. McClellan, et.al. / Bellsouth Telecommunications
    Title: Digital telepathology imaging system with bandwidth optimization & virtual focusing
    Number & Status: WIPO WO/1999/013360A2 – Issued Mar. 1999
  - *Inventor / Assignee:* G. Grimes, S. McClellan, G. Vaughn / Bellsouth Telecommunications
    Title: Bandwidth optimization for a digital telepathology imaging system
    Number & Status: 08/926,795 – Filed Sep. 1997
  - *Inventor / Assignee:* S. McClellan, et.al. / Bellsouth Telecommunications
    Title: Digital telepathology imaging system
    Number & Status: 08/926,699 – Filed Sep. 1997

ACADEMIC GRANTS & CONTRACTS

- **Texas State (2008 – 2023)**
  - *Amount (Date):* \$1,000,000 (2022–)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "JETS Program Management"
    Description: Provide oversight of the JETS contract with TXST
  - *Amount (Date):* \$800,000 (2014–2022)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "JETS Program Management"
    Description: Provide oversight of the JETS contract with TXST
  - *Amount (Date):* \$199,000 (2024–present)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "Support for the Astromaterials Research & Exploration Science Directorate (ARES)"
    Description: Planetary science support for NASA missions
  - *Amount (Date):* \$200,000 (2022–2024)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "Support for the Astromaterials Research & Exploration Science Directorate (ARES)"
    Description: Planetary science support for NASA missions
  - *Amount (Date):* \$200,000 (2022–present)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "Support for the Astromaterials Research & Exploration Science Directorate (ARES)"
    Description: Planetary science support for NASA missions
  - *Amount (Date):* \$450,000 (2021–present)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "Photogrammetric Processing for Intl Space Station"
    Description: Program support for Intl Space Station and related NASA missions
  - *Amount (Date):* \$500,000 (2021–present)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "Genomic Analysis of Microbial Populations via Bioinformatics"
    Description: Planetary science support for NASA missions
  - *Amount (Date):* \$137,541 (2021–2023)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "Infrared Characterization of Terrain Elements"
    Description: Planetary science support for NASA missions
  - *Amount (Date):* \$400,000 (2021–present)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "3D Human Tissue Assemblies to Model Disease"
    Description: Planetary science support for NASA missions
  - *Amount (Date):* \$259,521 (2021)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "Technical Expertise for Multispectral & Hyperspectral Data"
    Description: Planetary science support for NASA missions
  - *Amount (Date):* \$233,481 (2021)
    Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
    Title: "Software Design & Test for NASA Missions"
    Description: Program technical support for NASA missions

- *Amount (Date):* $771,362 (2016–2020)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Curation of Astromaterials from NASA Missions"
  Description: Planetary science support for NASA missions
- *Amount (Date):* $1,328,733 (2015–present)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Earth Observation Imaging & Remote Sensing via Satellite"
  Description: Program support for NASA Earth observation imaging and remote sensing
- *Amount (Date):* $1,000,000 (2019–present)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Planetary Environment Simulation"
  Description: Planetary science support for NASA missions
- *Amount (Date):* $600,000 (2019–2022)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Detection of Carbon-Based Compounds in Astromaterials"
  Description: Planetary science support for NASA missions
- *Amount (Date):* $541,031 (2015–2017)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Mission Planning & Support"
  Description: Mission planning and support for the Office of the CTO
- *Amount (Date):* $176,666 (2015–2016)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Topics in High-Energy Physics"
  Description: Topics in high-energy Physics & Chemistry
- *Amount (Date):* $38,636 (2018–2020)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Microrobotics for Astromaterials"
  Description: Planetary science support for NASA missions
- *Amount (Date):* $11,750 (2019)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Microrobotics for Astromaterials"
  Description: Planetary science support for NASA missions
- *Amount (Date):* $50,665 (2017–2018)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Remote Sensing for JSC Lab Management"
  Description: Program support for Johnson Space Center
- *Amount (Date):* $30,240 (2017–2018)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Microrobotics for Astromaterials Curation"
  Description: Planetary science support for NASA missions
- *Amount (Date):* $45,042 (2017–2018)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)
  Title: "Remote Sensing for JSC Lab Management"
  Description: Program support for Johnson Space Center
- *Amount (Date):* $8,000 (2014–2015)
  Sponsor: JSC Engineering, Technology, and Science (JETS-I/II)

Title: "Advanced Avionics for Exploration"
Description: Program support for Johnson Space Center

- $122,000. "Virtual Environment Performance." ZNYX Networks. 2012–2014. PI.
- $50,000. "Next Generation System Architecture." ZNYX Networks. 2010–2011. PI.
- $16,000. "Smart Grid Metering System." Texas State University Research Enhancement Program (REP). 2011. co-PI.
- $16,000. "Smart Grid System Evaluation." Power Tagging Technologies. 2010. PI.
- $150,000. "CC4: Applications in Signal Processing." Texas Instruments. 2009. PI.
- $25,000. "Communications Education & Research." Agilent Technologies . 2009. PI.
- $20,000. "TWACS System Evaluation." Dominion Virginia Power. 2009. PI.

- **Prior (1995 – 2001)**
  - $75,000. "VIPER: Voice over IP Environment for Research." Cisco Systems. 2000-2001. PI.
  - $10,000. "Per-Hop Behaviors & QoS." National Science Foundation (NSF). 2000. PI.
  - $25,890. "Remote Data Retrieval/Repository." Alabama Power Company. 1999-2000. PI.
  - $10,000. "Robotic Gross Specimen System." National Science Foundation (NSF). 1999. PI.
  - $425,172. "ASMI Exchange Network." American Sports Medicine Institute (ASMI). 1999-2000. co-PI.
  - $31,131. "ATM QoS with Oversubscription." Network Equipment Technologies (N.E.T.). 1999-2000. PI.
  - $25,000. "Analysis of Internet2 DiffServ Architecture." Bellsouth Telecom. 1999-2000. PI.
  - $50,000. "Network-Based Distributed Healthcare." Advanced Technology Institute (ATI). 1999. co-PI.
  - $945,000. "High Performance Connection for Research Universities in Alabama." National Science Foundation (NSF). 1998-2000. co-PI.
  - $1,156,983. "Infrastructure for Regional Connection to Internet2." National Science Foundation (NSF). 1998-2001. co-PI.
  - $100,000. "Leading Edge Campus Networks for Internet2." 3Com. 1998. PI.
  - $100,000. "Gigabit Routing Technology for Internet2." Torrent Networking. 1998. PI.
  - $200,000. "National Information Infrastructure: Applications of the Dynamic Anatomic Telepathology Imaging System." BellSouth Telecom & National Institute of Standards & Technology (NIST). 1998-1999. co-PI.
  - $603,500. "Healthcare Info. Technology Enabling Community Care (HITECC): Collaborative Computing for Telepathology (COLLAB)." BellSouth Telecom & National Institute of Standards & Technology (NIST). 1995-1998. co-PI.
  - $7,800. "Analysis of Perceptual Impact in the Progressive Transmission of Pathology Images." Southeastern Center for Electrical Engineering Education (SCEEE). 1996-1997. PI.
  - $14,410. "Topics in Random Processes." BellSouth Telecom. 1996-1997. PI.
  - $3,000. "Improving the Performance of the 4800 bits/sec Federal Standard Voice Compression Algorithm." Univ. Alabama-Birmingham Graduate School. 1995-1996. PI.
  - $553,740. "Anatomic Telepathology Applications Research." BellSouth Telecom. 1995-1997. co-PI.

OTHER SIGNIFICANT FUNDING

- *Amount:* \$11,000,000 (cap)
  Sponsor: Jacobs Engineering / Clear Lake Group
  Description: "JSC Engineering, Technology, and Science (JETS-2)," Task Order subcontract supporting NASA/Johnson Space Center, Principal (2022–)
- *Amount:* \$11,000,000 (cap)
  Sponsor: Jacobs Engineering / Clear Lake Group
  Description: "JSC Engineering, Technology, and Science (JETS-1)," Task Order subcontract supporting NASA/Johnson Space Center, Principal (2014–2022)
- *Amount:* \$5,000,000 (multiple additional tranches of \$2M+ ea.)
  Sponsor: Dominion Virginia Power
  Description: "Equity Funding for Power Tagging Technologies, Inc.," Industry equity for startup in Smart Grid, co-Founder & Chief Technology Officer (2009–2011)
- *Amount:* \$2,500,000 (multiple additional tranches of \$1M+ ea.)
  Sponsor: Lockheed Martin / AstroLink Technologies
  Description: "Equity Funding for Power Tagging Technologies, Inc.," Industry equity for startup in Smart Grid, co-Founder & Chief Technology Officer (2010–2011)
- *Amount:* \$500,000
  Sponsor: National Science Foundation (NSF)
  Description: "Power Tagging Grid Intelligence for 21st Century Energy Applications," SBIR Phase II grant to Power Tagging Technologies, Principal Author & Sr. Personnel (2020–2011)
- *Amount:* \$150,000
  Sponsor: National Science Foundation (NSF)
  Description: "Power Tagging Grid Intelligence for 21st Century Energy Applications," SBIR Phase I grant to Power Tagging Technologies, Principal Author & Sr. Personnel (2020–2011)
- *Amount:* \$100,000
  Sponsor: National Institues of Health (NIH)
  Description: "Robotic Tele-mammography System," SBIR Phase I grant to startup in health technologies, Principal Author & Sr. Personnel (1998-1999)

SELECTED PUBLICATIONS – Books & Chapters

[1] S. McClellan, Ed., *Data, Security, and Trust in Smart Cities.* Springer, July 2024.

[2] ——, *Smart Cities in Application: Healthcare, Policy, and Innovation.* Springer, Aug. 2019.

[3] S. McClellan, G. Koutitas, and J. Jimenez, Eds., *Smart Cities: Applications, Technologies, Standards and Driving Factors.* Springer, Aug. 2017.

[4] G. Koutitas and S. McClellan, Eds., *The Smart Grid as an Application Development Platform.* Artech House, Sep. 2017.

[5] S. McClellan, K. Conner, and D. Conner, "Telecommunication methods," in *The Encyclopedias of Electrical and Electronics Engineering (online edition)*, J. G. Webster, Ed. Wiley, 2007.

[6] S. McClellan and R. Seker, "Quality of service in packet-switched networks," in *The Electrical Engineering Handbook, 3rd ed.*, R. Dorf, Ed. Boca Raton, FL: IEEE Press, 2006, vol. 4.

[7] S. McClellan, S. Low, and W.-T. Tan, "Disruptive technologies and their affect on global telecommunications," in *Advances in Computers: Architectural Issues*, M. Zelkowitz, Ed. San Diego, CA: Elsevier Academic Press, 2004, vol. 61, pp. 199–273, ISSN: 0065-2458/DOI 10.1016/S0065-2458(03)61004-1.

[8] S. McClellan, K. Conner, and D. Conner, "Telecommunication methods," in *The Encyclopedias of Electrical and Electronics Engineering, 2nd ed.*, J. G. Webster, Ed. New York, NY: Wiley Interscience, 2001.

[9] F. Shaikh and S. McClellan, "Evaluation of end-to-end QoS mechanisms in IP networks," in *Networking – ICN 2001: Proceedings Part II*, ser. Lecture Notes in Computer Science, P. Lorenz, Ed. Heidelberg: Springer-Verlag, Jan. 2001, vol. 2094/2001, pp. 579–590.

[10] D. Conner and S. McClellan, "Telecommunication of engineering information," in *The Encyclopedias of Electrical and Electronics Engineering*, J. G. Webster, Ed. New York, NY: Wiley Interscience, Oct. 1998.

[11] S. McClellan and J. Gibson, "Speech signal processing: Coding, transmission, and storage," in *The Electrical Engineering Handbook, 2nd ed.*, R. Dorf, Ed. Boca Raton, FL: IEEE Press, Oct. 1997, pp. 339–348, vol. 2 of *CRC Handbooks*.

[12] G. Grimes, S. McClellan, T. Winokur, D. Conner, G. Vaughn, J. Goldman, J. McDonald, and W. Fleming, "Applications of virtual reality technology in pathology," in *Medicine Meets Virtual Reality: Global Healthcare Grid*, K. Morgan, H. Hoffman, D. Stredney, and S. Weghorst, Eds. Amsterdam: IOS Press, Aug. 1997, pp. 319–327, vol. 39 of *Studies in Health Technology and Informatics*.

[13] J. D. Gibson and S. A. McClellan, "Block source coding over GF(q)," in *Finite Fields, Coding Theory, and Advances in Communications and Computing*, ser. Lecture Notes in Pure and Applied Mathematics, G. L. Mullen and P. Shiue, Eds. New York, NY: Marcel Dekker, Nov. 1993, vol. 141, pp. 291–306.

SELECTED PUBLICATIONS – Magazines & Journals

[1] B. Thapa, B. Sharma, and S. McClellan, "Intelligent cipher transfer object for IoT data security," *Int. J. Adv. in Networks and Services*, vol. 16, no. 3 & 4, pp. 90–105, Jan. 2023, ISSN: 1942-2644.

[2] K. Thapa, S. McClellan, and D. Valles, "Supervised machine learning in inter-level, ultra-low frequency power line communications," *Int. J. Adv. in Telecom.*, vol. 14, no. 3 & 4, pp. 51–69, Dec. 2021, ISSN: 1942-2601.

[3] S. McClellan, D. Valles, and G. Koutitas, "Dynamic voltage optimization based on in-band sensors and machine learning," *Applied Sciences*, vol. 9, iss. 14, no. 2902, July 2019, https://doi.org/10.3390/app9142902.

[4] D. Valles and S. McClellan, "Using machine learning to optimize Linux networking," *Linux Journal*, pp. 128–138, May 2019.

[5] W. Forfang, E. Gonzalez, S. McClellan, and V. Viswanathan, "A VAD/VOX algorithm for amateur radio applications," *Int. J. Adv. in Telecom.*, vol. 7, no. 1 & 2, pp. 34 – 44, June 2014, ISSN: 1942-2601.

[6] S. McClellan and W. Peng, "Improving retransmission performance of IP-based transport protocols," *Int. J. Adv. in Telecom.*, vol. 6, no. 3 & 4, pp. 123–131, Dec. 2013, ISSN: 1942-2601.

[7] S. McClellan, "iSCSI brings distributed storage to mezzanine clients," *RTC Mag.*, pp. 30–35, June 2006.

[8] S. McClellan, P. Fleming, and D. Smith, "Standards-based platforms: The path to ATCA applications," *RTC Mag.*, pp. 30–35, Nov. 2005.

[9] M. Barr, S. McClellan, T. Winokur, and G. Vaughn, "An automated tissue pre-classification approach for telepathology: Implementation and performance analysis," *IEEE Trans. Info. Tech. in Biomed.*, vol. 8, no. 2, pp. 97–102, June 2004.

[10] F. Shaikh, S. McClellan, M. Singh, and K. C. Sannedhi, "End-to-end testing of IP quality of service mechanisms," *IEEE Computer Mag.*, pp. 80–87, May 2002.

[11] M. Stricklen, B. Cummings, and S. McClellan, "Linux and the Next Generation Internet," *Linux Journal*, vol. 73, pp. 90–98, Apr. 2000.

[12] T. Winokur, S. McClellan, G. Siegal, D. Redden, P. Gore, A. Lazenby, V. Reddy, C. Listinsky, D. Conner, J. Goldman, G. Grimes, G. Vaughn, and J. McDonald, "A prospective trial of telepathology for intraoperative consultation (frozen sections)," *Human Pathology*, vol. 31, p. 781, July 2000.

[13] S. McClellan, J. Gibson, and K. Rutherford, "Efficient pitch filter encoding for variable rate speech processing," *IEEE Trans. Speech and Audio Processing*, vol. 7, pp. 18–29, Jan. 1999.

[14] T. Winokur, S. McClellan, G. Siegal, V. Reddy, C. Listinsky, D. Conner, J. Goldman, G. Grimes, G. Vaughn, P. Gore, J. Lazenby, R. Crowe, O. Lampejo, and J. McDonald, "Parallel frozen-section diagnosis by telepathology and microscopy utilizing a prototype telepathology microscope," *Telemed. J.*, vol. 4, no. 1, p. 117, 1998.

[15] T. Winokur, S. McClellan, G. Siegal, V. Reddy, C. Listinsky, D. Conner, J. Goldman, G. Grimes, G. Vaughn, and J. McDonald, "An initial trial of a prototype telepathology system featuring static imaging with discrete control of the remote microscope," *Am. J. Clin. Path.*, vol. 110, pp. 43–49, 1998.

[16] G. Grimes, S. McClellan, J. Goldman, D. Conner, J. McDonald, T. Winokur, G. Siegal, and W. Fleming, "Remote microscopy for hi-res real-time interactive pathology," *Advanced Imaging*, p. 13ff, July 1997.

[17] S. McClellan and J. Gibson, "Variable rate CELP based on subband flatness," *IEEE Trans. Speech and Audio Processing*, vol. 5, no. 2, pp. 120–130, Mar. 1997.

[18] T. Winokur, S. McClellan, E. Kujawski, G. Siegal, C. Listinsky, V. Reddy, and J. McDonald, "A prototype telepathology system combining features of dynamic and static telepathology," *Cell Vision: Journal of Analytic Morphology*, vol. 3, no. 6, p. 474, Feb. 1997.

SELECTED PUBLICATIONS – Conferences & Symposia

[1] B. Thapa, B. Sharma, and S. McClellan, "Comparative performance of TCP and MQTT," in *Proc. 18th Int'l Conf. on Digital Telecomm.*, Venice, Italy, Apr. 2023, pp. 10–14, ISSN: 2308-3964, ISBN: 978-1-68558-034-6.

[2] S. McClellan, "Identity, security, and data provenance," in *Proc. IARIA Annual Congress on Frontiers in Science, Technology, Services, and Applications*, Nice, France, July 2022.

[3] K. Thapa and S. McClellan, "An evaluation of neural network performance using complex-valued input data," in *Proc. 16th Int'l Conf. on Digital Telecomm.*, Porto, Portugal, Apr. 2021, pp. 27–31, ISSN: 2308-3964, ISBN: 978-1-61208-835-8.

[4] K. Thapa, S. McClellan, and D. Valles, "Supervised machine learning in digital power line communications," in *Proc. 16th Int'l Conf. on Digital Telecomm.*, Porto, Portugal, Apr. 2021, pp. 16–21, ISSN: 2308-3964, ISBN: 978-1-61208-835-8.

[5] V. Lokesh, K. Thapa, and S. McClellan, "Remote filesystem event notification and processing for distributed systems," in *Proc. 16th Int'l Conf. on Digital Telecomm.*, Porto, Portugal, Apr. 2021, pp. 22–26, ISSN: 2308-3964, ISBN: 978-1-61208-835-8.

[6] B. Dasgupta, D. Valles, and S. McClellan, "Estimating TCP RTT with LSTM neural networks," in *Proc. 2019 World Congress in Comp. Sci., Comp. Eng., & Appl. Comp. – The 21st Int'l Conf. on Artificial Intelligence (CSCE-ICAI'19)*, Las Vegas, NV, Aug. 2019.

[7] ——, "A K-Means algorithm approach for classifying wireless signal loss using RTT and bandwidth," in *Proc. IEEE 9th Info. Tech., Electr. and Mobile Comm. Conf. (IEMCON)*, Vancouver, Canada, Nov. 2018.

[8] ——, "A comparison of MLA techniques for classification of network bandwidth loss," in *Proc. 5th Conf. on Computational Sci. and Comp. Intell. (CSCI)*, Las Vegas, NV, Dec. 2018.

[9] M. Casey and S. McClellan, "A survey of 5G security standards," in *Proc. 12th Int'l Conf. on Digital Telecomm.*, Athens, Greece, Apr. 2018.

[10] A. Amaro, W. Peng, and S. McClellan, "A survey of cloud bandwidth control mechanisms," in *Proc. 7th Int'l Conf. on ICT Convergence (ICTC'16)*, Jeju Island, Korea, Oct. 2016.

[11] ——, "Bandwidth as a service: Transport layer bandwidth guarantees for cloud environments," in *Proc. 7th Int'l Conf. on ICT Convergence (ICTC'16)*, Jeju Island, Korea, Oct. 2016.

[12] E. Gonzalez, S. McClellan, and W. Peng, “RTOmin as a balancing parameter between fast retransmissions and timeouts with in the Stream Control Transmission Protocol (SCTP),” in *Proc. 2nd Int’l Conf. on Systems and Informatics (ICSAI)*, Shanghai, China, Nov. 2014.

[13] ——, “The Stream Control Transmission Protocol (SCTP) and its potential for amateur radio,” in *Proc. 2014 ARRL/TAPR Digital Comm. Conf.*, Austin, TX, Sep. 2014.

[14] S. McClellan and W. Peng, “Estimating retransmission timeouts in IP-based transport protocols,” in *Proc. 8th Int’l Conf. on Digital Telecomm.*, Venice, Italy, Apr. 2013.

[15] S. McClellan, M. Casey, and M. Chung, “Coherent pre-distortion of low-frequency PLC carriers,” in *Proc. 6th Int’l Conf. on Comm. Theory, Reliability, and Quality of Service*, Venice, Italy, Apr. 2013.

[16] S. McClellan, “IP transport protocols and VMs,” in *Proc. Ethernet Technology Summit’13*, Santa Clara, CA, Apr. 2013.

[17] ——, “Designing the private cloud: Practical aspects of virtualization,” in *Proc. Server Design Summit’12*, Santa Clara, CA, Nov. 2012.

[18] ——, “Military applications of ATCA,” in *Proc. ATCA Summit’12*, Santa Clara, CA, Sep. 2012.

[19] S. McClellan, K. Austin, and A. Deikman, “Open standard blade server systems enable high performance applications,” in *Proc. 18th IEEE Real-Time Conf.*, Berkeley, CA, June 2012.

[20] K. Kastner, S. McClellan, and W. Stapleton, “Dynamic spectrum allocation in low-bandwidth power line communications,” in *Proc. 2nd Int’l Conf. on Adv. in Cognitive Radio*, Chamonix, France, May 2012.

[21] E. Gonzalez and S. McClellan, “A hybrid VOX system using emulated hardware behaviors,” in *Proc. 7th Int’l Conf. on Digital Telecomm.*, Chamonix, France, May 2012.

[22] S. McClellan, “International experts to explore Smart Grid security, threat identification and management at IEEE ICC 2012,” Wireless Design & Development (online magazine), Apr. 2012.

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