

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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NVIDIA CORPORATION,  
Petitioners,

v.

NEURAL AI, LLC,  
Patent Owner.

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Case No. IPR2025-00609  
U.S. Patent No. RE49,438

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**PETITIONER'S REQUEST FOR REHEARING OF DECISION  
DENYING INSTITUTION OF *INTER PARTES* REVIEW**

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**PETITIONERS' EXHIBIT LIST**

<b>Exhibit</b>	<b>Description</b>
1001	U.S. Patent No. RE48,438
1002	File History for U.S. Patent No. RE48,438 (Appl. No. 15/808,201)
1003	Declaration of Prof. Tajana Rosing, Ph.D.
1004	U.S. Patent No. 7,861,060 ("Nickolls")
1005	U.S. Patent No. 7,139,003 ("Kirk")
1006	Z. Luo, <i>Artificial Neural Network Computation on Graphic Process Unit</i> (IEEE 2005) ("ANN")
1007	K. Oh, GPU implementation of neural networks (2004) ("Oh")
1008	Japanese Unexamined Patent Appl. No. H04-237388A ("Tamura")
1009	<i>The C programming Language</i> (1988)
1010	Excerpts of Patent Owner's Infringement Contentions
1011	Numerical Recipes in C (2d ed. 2002)
1012	Jeanne Martin, <i>Fortran 90 Pointers vs. "Cray" Pointers</i> , 11 ACM SIGPLAN Fortran Forum (1992)
1013	Arthur Veen, <i>Dataflow Machine Architecture</i> (1986)
1014	Michael Flynn, <i>Some Computer Organizations and Their Effectiveness</i> (1972)
1015	Press Release – NVIDIA Launches the World's First Graphics Processing Unit; GeForce 256 (Aug. 31, 1999)
1016	Excerpts of OpenGL Shading Language (2004)
1017	Excerpts of The Cg Tutorial: The Definitive Guide to Programmable Real-Time Graphics (2003)
1018	OpenGL 2.1 Reference Pages
1019	Advanced Image Processing with DirectX 9 Pixel Shaders (2004)
1020	GPGPU: Basic Math Tutorial
1021	Ian Buck, <i>Data Parallel Computation on Graphics Hardware</i> (2003)
1022	Youquan Liu, <i>Real-Time 3D Fluid Simulation on GPU with Complex Obstacles</i> (2004)

Exhibit	Description
1023	Declaration of Dr. Mary Bolin
1024	Declaration of Gordon McPherson
1025	Thomas Rolfes, <i>Artificial Neural Networks on Programmable Graphics Hardware</i> in Game Programming Gems 4 (2004)
1026	P.J.G. Lisboa, <i>A review of evidence of health benefits from artificial neural networks in medical intervention</i> (2002)
1027	U.S. Patent Publ. No. 2003/0140179 (“Wilt”)
1028	Bertil Svensson, <i>SIMD Processor Array Architectures</i> in PARALLEL PROCESSING IN INDUSTRIAL REAL-TIME APPLICATIONS (1992)
1029	Michael Glover, <i>A Massively-Parallel SIMD Processor for Neural Network and Machine Vision Applications</i> (1993)
1030	Francisco Mesa-Martinez, <i>The UCSC Kestrel High Performance SIMD Processor: Present and Future</i> (2003)
1031	<i>Sotera</i> Stipulation
1032	GPU Gems 2: Programming Techniques for High-Performance Graphics and General-Purpose Computation (2005)
1033	Stipulated Protective Order
1034	Redline Showing Proposed Modifications to the Default Protective Order
1035	File History for U.S. Patent No. 8,648,867 (Appl. No. 11/860,254)
1036	Neurala Vision Inspection Automation (VIA) Software Brings New Technology to Visual Inspection, Neurala, <a href="https://www.neurala.com/tech">https://www.neurala.com/tech</a> (last visited July 11, 2025)
1037	Neurala, Neurala Announces Availability of Brain Builder on Sony's AITRIOS™ Marketplace, (April 20, 2023), available at <a href="https://www.neurala.com/press-releases/neurala-announces-availability-of-brain-builder-on-sonys-aitrios-marketplace">https://www.neurala.com/press-releases/neurala-announces-availability-of-brain-builder-on-sonys-aitrios-marketplace</a> .
1038	NAI's Original Complaint in <i>Neural AI, LLC v. NVIDIA Corp.</i> , No. 7:24-cv-00221 (W.D. Tex.), Dkt. 1, September 13, 2024
1039	Order in <i>Neural AI, LLC v. NVIDIA Corp.</i> , No. 7:24-cv-00221 (W.D. Tex.), Dkt. 5, September 16, 2024

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1040	Time to Milestones: California Northern District, DOCKETNAVIGATOR (last visited July 11, 2025).
1041	NAI's Responsive Claim Construction Brief in <i>Neural AI, LLC v. NVIDIA Corp.</i> , No. 7:24-cv-00221 (W.D. Tex.), Dkt. 74, June 10, 2025
1042	NVIDIA's Reply in Support of Transfer in <i>Neural AI, LLC v. NVIDIA Corp.</i> , No. 7:24-cv-00221 (W.D. Tex.), Dkt. 82, June 26, 2025
1043	Plaintiff Neural AI LLC's Preliminary Infringement Contentions, Exhibit 1 (Claim chart for Grace-Hopper), served January 14, 2025 in <i>Neural AI, LLC v. NVIDIA Corp.</i> , No. 7:24-cv-00221 (W.D. Tex.)
1044	USPTO Assignments, Patent assignment 068567/0282
1045	L. Neeves, <i>Speeding up Neurala's Brian Building with NGC</i> (July 31, 2019), <a href="https://www.neurala.com/blog/speeding-up-neurala-brain-builder-with-ai-containers-from-nvidia-ngc">https://www.neurala.com/blog/speeding-up-neurala-brain-builder-with-ai-containers-from-nvidia-ngc</a> .
1046	N. Alarcon, <i>Inception Spotlight: AI Startup Neruala Sees 7X Speedup with NGC</i> (Sep. 25, 2019), <a href="https://developer.nvidia.com/blog/inception-spotlight-ai-startup-neurala-sees-7x-speedup-with-ngc/">https://developer.nvidia.com/blog/inception-spotlight-ai-startup-neurala-sees-7x-speedup-with-ngc/</a> .
1047	<i>NVIDIA® CUDA™ Unleashes Power of GPU Computing</i> , NVIDIA (Feb. 16, 2007), <a href="https://web.archive.org/web/20070329144655/http://www.nvidia.com/object/IO_39918.html">https://web.archive.org/web/20070329144655/http://www.nvidia.com/object/IO_39918.html</a> .
1048	<i>NVIDIA Leads Performance Per Watt Revolution With "Maxwell" Graphics Architecture</i> , NVIDIA (Feb. 17, 2014), <a href="https://nvidianews.nvidia.com/news/nvidia-leads-performance-per-watt-revolution-with-maxwell-graphics-architecture-6622576">https://nvidianews.nvidia.com/news/nvidia-leads-performance-per-watt-revolution-with-maxwell-graphics-architecture-6622576</a> .
1049	<i>A Quantum Leap in Gaming: NVIDIA Introduces GeForce GTX 1080</i> , NVIDIA (May 6, 2016), <a href="https://nvidianews.nvidia.com/news/a-quantum-leap-in-gaming:-nvidia-introduces-geforce-gtx-1080">https://nvidianews.nvidia.com/news/a-quantum-leap-in-gaming:-nvidia-introduces-geforce-gtx-1080</a> .
1050	<i>NVIDIA Launches Revolutionary Volta GPU Platform, Fueling Next Era of AI and High Performance Computing</i> , NVIDIA (May 10, 2017), <a href="https://nvidianews.nvidia.com/news/nvidia-launches-revolutionary-volta-gpu-platform-fueling-next-era-of-ai-and-high-performance-computing">https://nvidianews.nvidia.com/news/nvidia-launches-revolutionary-volta-gpu-platform-fueling-next-era-of-ai-and-high-performance-computing</a> .

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1051	<i>NVIDIA Reinvents Computer Graphics with Turing Architecture</i> , NVIDIA (Aug. 13, 2018), <a href="https://nvidianews.nvidia.com/news/nvidia-reinvents-computer-graphics-with-turing-architecture">https://nvidianews.nvidia.com/news/nvidia-reinvents-computer-graphics-with-turing-architecture</a> .
1052	<i>NVIDIA's New Ampere Data Center GPU in Full Production</i> , NVIDIA (May 14, 2020), <a href="https://nvidianews.nvidia.com/news/nvidias-new-ampere-data-center-gpu-in-full-production">https://nvidianews.nvidia.com/news/nvidias-new-ampere-data-center-gpu-in-full-production</a> .
1053	<i>NVIDIA Announces Hopper Architecture, the Next Generation of Accelerated Computing</i> , NVIDIA (Mar. 22, 2022), <a href="https://nvidianews.nvidia.com/news/nvidia-announces-hopper-architecture-the-next-generation-of-accelerated-computing">https://nvidianews.nvidia.com/news/nvidia-announces-hopper-architecture-the-next-generation-of-accelerated-computing</a> .
1054	<i>NVIDIA's New Ada Lovelace RTX GPU Arrives for Designers and Creators</i> , NVIDIA (Sep. 20, 2022), <a href="https://nvidianews.nvidia.com/news/nvidias-new-ada-lovelace-rtx-gpu-arrives-for-designers-and-creators">https://nvidianews.nvidia.com/news/nvidias-new-ada-lovelace-rtx-gpu-arrives-for-designers-and-creators</a> .
1055	Motion Success: Motion to Stay Pending Inter Partes Review — California Northern District, DOCKETNAVIGATOR (last visited Jun. 27, 2025).
1056	Texas Secretary of State, <i>Certificate of Amendment for Neural AI, LLC</i> (Jul. 15, 2024).
1057	K. Vidal, <i>Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation</i> , U.S.P.T.O. (Jun. 21, 2022).
1058	<i>USPTO Rescinds memorandum addressing discretionary denial procedures</i> (Feb. 28, 2025), <a href="https://www.uspto.gov/about-us/news-updates/uspto-rescinds-memorandum-addressing-discretionary-denial-procedures">https://www.uspto.gov/about-us/news-updates/uspto-rescinds-memorandum-addressing-discretionary-denial-procedures</a> .
1059	Boalick, C.A.P.J., <i>Guidance on USPTO's rescission of "Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation"</i> , U.S.P.T.O. (Mar. 24, 2025).
1060	Marketing Agreement between NVIDIA and Neurala (Feb. 4, 2016). (Sealed)
1061	Amendment No. 1 to the Marketing Agreement between NVIDIA and Neurala (Feb. 22, 2017). (Sealed)

Exhibit	Description
1062	Neurala Inventor's Notes, NAI_0007735-36. (Sealed)
1063	<i>Jetson TX1 Module</i> , NVIDIA, <a href="https://developer.nvidia.com/embedded/jetson-tx1">https://developer.nvidia.com/embedded/jetson-tx1</a> (last visited Jul. 11, 2025).
1064	Neurala, Press Release titled <i>Neurala Brings New AI Technology to NVIDIA Jetson Ecosystem</i> (June 14, 2016), available at <a href="https://www.neurala.com/press-releases/neurala-brings-new-ai-technology-nvidia-jetson-ecosystem">https://www.neurala.com/press-releases/neurala-brings-new-ai-technology-nvidia-jetson-ecosystem</a>
1065	NVIDIA AI, <i>How a Boston Startup Plans to Poach Poachers in Africa Using Intelligent Drones</i> , Medium, (July 10, 2017), available at <a href="https://medium.com/@NvidiaAI/how-a-boston-startup-plans-to-poach-poachers-in-africa-using-intelligent-drones-ec0a2b32d0e0">https://medium.com/@NvidiaAI/how-a-boston-startup-plans-to-poach-poachers-in-africa-using-intelligent-drones-ec0a2b32d0e0</a>

## I. STATEMENT OF THE PRECISE RELIEF REQUESTED

NVIDIA requests rehearing of the Director's September 12, 2025 Decision Denying Institution of *Inter Partes* Review of the first petition on U.S. Patent No. RE48,438 ("the '438 patent"). Paper 18.<sup>1</sup>

The Director's decision incorporated its decisions denying NVIDIA's petitions for IPR against the '867 and '461 patents (family members of the '438 patent), saying only that the petitions against the '438 patent "presents essentially the same discretionary considerations" as those petitions. Decision, 2 (*citing NVIDIA Corp. v. Neural AI, LLC*, IPR2025-00606, Paper 18 ("the -606 Decision") (July 31, 2025)). The prior decisions referenced the expected trial date in the parallel District Court litigation and the settled expectations of the parties. There, as here, the Director failed to consider key evidence submitted by NVIDIA. First, the Director failed to consider the actual time-to-trial statistics from the Western District of Texas, which establish that a jury trial on the '438 patent is not likely to occur until several months after a Final Written Decision. When considering this evidence, the *Fintiv* factors weigh towards institution. Second, the Director also failed to

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<sup>1</sup> On the same day, the Director also entered a Decision Denying Institution of *Inter Partes* Review of a second petition on the '438 patent (IPR2025-00610). NVIDIA is concurrently filing a Request for Rehearing in the related IPR as well.

accord proper weight to the recent issuance of the '438 patent. This patent's lack of time in force negates any settled expectations of Patent Owner. Finally, although Patent Owner told the Director that its forthcoming POPR would demonstrate alleged weaknesses in NVIDIA's arguments, it never filed a POPR—an omission the Director should have addressed given that it is strong evidence as to the strength of NVIDIA's Petition.

When the evidence submitted by NVIDIA is properly considered, the *Fintiv* factors and settled expectations of the parties weigh against discretionary denial. Accordingly, NVIDIA respectfully requests rehearing of the denial of institution.

## II. LEGAL STANDARD

“A party dissatisfied with a decision may file a single request for rehearing,” “identify[ing] all matters the party believes the Board misapprehended or overlooked.” 37 C.F.R. § 42.71(d).

## III. STATEMENT OF REASONS FOR RELIEF REQUESTED

### A. *Fintiv* Factor 2: Proximity of the court's trial date to the Board's projected statutory deadline for a Final Written Decision

The Director failed to consider material evidence when weighing this factor. Under the Board's *Fintiv* guidance, the Director should have considered NVIDIA's evidence of “median time-to-trial statistics for civil actions in the district court in which the parallel litigation resides.” Ex1059, 3. Accordingly, the Director must

rely on actual time-to-trial statistics—not optimistic trial dates set by the Court—when evaluating efficiency concerns.

In its decision granting discretionary denial, the Director mistakenly relied on Judge Albright's tentative trial date in the parallel litigation and found that “the latest trial would begin is in September 2026.” -606 Decision, 2. However, time-to-trial statistics submitted by NVIDIA show that a jury trial most likely will not occur until May 2027 or later—several months after the statutory deadline for a Final Written Decision. Paper 16 (“Opp.”), 19–20, 41–42 (Appendix B); Ex2008, 3. In addition, NVIDIA provided evidence that the Court has not kept its scheduled trial date once in two years and 22 trials, evidence which the Director also did not consider. *See id.*

The Director erred by failing to consider material “evidence that bears on the proximity of the district court's trial date” in accordance with the Board's guidance. Ex1059, 3. Based on that evidence, this factor weighs towards institution and rehearing is warranted.

**B. Settled Expectations: Recent Issuance of Patent**

When weighing the settled expectations of the parties, the Director found that the patent “has not been in force for a significant period of time” but failed to accord this finding its proper weight. -606 Decision, 2. Indeed, the Director has declined to discretionarily deny petitions on patents that have been in force approximately the same duration as the '438 patent. *Advanced Micro Devices, Inc. v. Concurrent*

*Ventures LLC*, IPR2025-00479, Paper 10 at 2 (July 10, 2024) (finding no settled expectations for a patent that issued in 2021); *Cambridge Indus. USA, Inc. v. Applied Optoelectronics, Inc.*, IPR2025-00434, Paper 11 at 2–3 (June 26, 2025) (declining to discretionarily deny petitions because the challenged patents issued about 5–6 years ago).

The '438 patent only issued in 2021. In the parallel proceeding against the '461 patent, the Director admitted that “ordinarily such circumstances would counsel against discretionary denial.” -606 Decision, 3. Nevertheless, it found that the patent’s prior assignee had sent NVIDIA a presentation that included a discussion of the original patent from which the '438 patent issued. *Id.* This presentation—which was shared four years *before* the '438 patent issued—cannot establish that Patent Owner or its predecessor-in-interest had any settled expectations in the '438 patent. Instead, the '438 patent’s recent issuance negates any settled expectations of Patent Owner. Because the Director failed to accord it proper weight, rehearing is warranted.

**C. The Strength of the Petition Should Have Weighed Against Discretionary Denial**

The March 26 Memorandum from the Director notes “[t]he strength of the unpatentability challenge” as a central factor in the discretionary denial analysis. Memorandum, 2. Patent Owner acknowledged as much in its discretionary denial brief, stating: “In accordance with this guidance, Patent Owner respectfully requests

that the Director consider the merits briefing filed in Patent Owner's POPR. The present Petition raises grounds based on Nickolls/ANN. Petitioner fails to show that several limitations are disclosed by the combinations or that a POSITA would be motivated to make the combinations." PO Brief, 63–64. Yet despite expressly telling the Director that its forthcoming POPR would provide this purportedly critical analysis, Patent Owner never filed one. Patent Owner's decision not to file a POPR should have been treated as dispositive proof on this factor, confirming the strength of NVIDIA's Petition and weighing decisively against discretionary denial. The Director's decision failed to even address this strong factor against a discretionary denial and it should have.

#### **IV. CONCLUSION**

NVIDIA respectfully requests that the Director reconsider its decision granting discretionary denial of the Petition for *inter partes* review of the '438 patent and refer the Petition to the Board for a hearing on the merits.

DATED: September 24, 2025

Respectfully Submitted,

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**CERTIFICATE OF SERVICE**

The undersigned certifies service pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(a), (b) on the Patent Owner of the Petitioner's Request for Rehearing via email to the following addresses of record:

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DATED: September 24, 2025

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