

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NVIDIA CORPORATION,
Petitioners,

v.

NEURAL AI, LLC,
Patent Owner.

Case No. IPR2025-00608
U.S. Patent No. RE49,461

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

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TABLE OF AUTHORITIES

Cases

<i>Advanced Micro Devices, Inc. v. Concurrent Ventures LLC</i> , IPR2025-00479, Paper 10 (July 10, 2024)	3
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37 C.F.R. § 42.71(d)	1
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PETITIONERS' EXHIBIT LIST

Exhibit	Description
1001	U.S. Patent No. RE49,461
1002	Excerpt of File History for U.S. Patent No. RE49,461 (App. No. 17/136,343)
1003	Declaration of Prof. Tajana Rosing, Ph.D.
1004	U.S. Patent Application Publication No. 2005/0197977 (“Buck”)
1005	U.S. Patent Application Publication No. 2003/0140179 (“Wilt”)
1006	Neural Network Toolbox User’s Guide Version 4 (“nnet”)
1007	Artificial Neural Network Computation on Graphic Process Unit (“ANN”)
1008	GPU Gems 2: Programming Techniques for High-Performance Graphics and General-Purpose Computation (2005) (“GPU Gems”)
1009	Plaintiff’s Disclosure of Asserted Claims and Preliminary Infringement Contentions Pursuant to the Court’s Standing Order Governing Patent Proceedings (Jan. 14, 2025)
1010	Declaration of Dr. Mary Bolin
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	Excerpt of OpenGL Shading Language (2004)
1017	Excerpt 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)

Exhibit	Description
1020	Dominik Göddeke—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)
1023	Kyoung-Su Oh, <i>GPU implementation of neural networks</i> (2004)
1024	U.S. Patent No. 7,673,304 (“Gosalia”)
1025	Thomas Rolfes, <i>Artificial Neural Networks on Programmable Graphics Hardware</i> in <i>Game Programming Gems 4</i> (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 No. 7,418,576 (“Lindholm”)
1028	Bertil Svensson, <i>SIMD Processor Array Architectures</i> in <i>PARALLEL PROCESSING IN INDUSTRIAL REAL-TIME APPLICATIONS</i> (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	Getting Started with MATLAB, Version 7 (2005)
1032	Declaration of Gordon MacPherson
1033	<i>The C programming Language</i> (1988)
1034	U.S. Patent No. 7,861,060 (“Nickolls”)
1035	U.S. Patent No. 7,139,003 (“Kirk”)
1036	<i>Sotera</i> Stipulation (Mar. 5, 2025)
1037	Stipulated Protective Order
1038	NAI’s Original Complaint in <i>Neural AI, LLC v. NVIDIA Corp.</i> , No. 7:24-cv-00221 (W.D. Tex.), Dkt. 1, Sep. 13, 2024
1039	Order in <i>Neural AI, LLC v. NVIDIA Corp.</i> , No. 7:24-cv-00221 (W.D. Tex.), Dkt. 5, Sep. 16, 2024
1040	Time to Milestones: California Northern District, DOCKETNAVIGATOR (last visited July 11, 2025)

Exhibit	Description
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 Brain Building with AI Containers From NVIDIA NGC</i> (July 31, 2019), https://www.neurala.com/blog/speeding-up-neurala-brain-builder-with-ai-containers-from-nvidia-ngc
1046	N. Alarcon, <i>Inception Spotlight: AI Startup Neurala Sees 7X Speedup with NGC</i> (Sep. 25, 2019), https://developer.nvidia.com/blog/inception-spotlight-ai-startup-neurala-sees-7x-speedup-with-ngc/
1047	<i>NVIDIA® CUDA™ Unleashes Power of GPU Computing</i> , NVIDIA (Feb. 16, 2007), https://web.archive.org/web/20070329144655/http://www.nvidia.com/object/IO_39918.html
1048	<i>NVIDIA Leads Performance Per Watt Revolution With "Maxwell" Graphics Architecture</i> , NVIDIA (Feb. 17, 2014), https://nvidianews.nvidia.com/news/nvidia-leads-performance-per-watt-revolution-with-maxwell-graphics-architecture-6622576
1049	<i>A Quantum Leap in Gaming: NVIDIA Introduces GeForce GTX 1080</i> , NVIDIA (May 6, 2016), https://nvidianews.nvidia.com/news/a-quantum-leap-in-gaming:-nvidia-introduces-geforce-gtx-1080
1050	<i>NVIDIA Launches Revolutionary Volta GPU Platform, Fueling Next Era of AI and High Performance Computing</i> , NVIDIA (May 10, 2017), https://nvidianews.nvidia.com/news/nvidia-launches-revolutionary-volta-gpu-platform-fueling-next-era-of-ai-and-high-performance-computing

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1051	<i>NVIDIA Reinvents Computer Graphics with Turing Architecture</i> , NVIDIA (Aug. 13, 2018), https://nvidianews.nvidia.com/news/nvidia-reinvents-computer-graphics-with-turing-architecture
1052	<i>NVIDIA’s New Ampere Data Center GPU in Full Production</i> , NVIDIA (May 14, 2020), https://nvidianews.nvidia.com/news/nvidias-new-ampere-data-center-gpu-in-full-production
1053	<i>NVIDIA Announces Hopper Architecture, the Next Generation of Accelerated Computing</i> , NVIDIA (Mar. 22, 2022), https://nvidianews.nvidia.com/news/nvidia-announces-hopper-architecture-the-next-generation-of-accelerated-computing
1054	<i>NVIDIA’s New Ada Lovelace RTX GPU Arrives for Designers and Creators</i> , NVIDIA (Sep. 20, 2022), https://nvidianews.nvidia.com/news/nvidias-new-ada-lovelace-rtx-gpu-arrives-for-designers-and-creators
1055	Motion Success: Motion to Stay Pending Inter Partes Review—California Northern District, DOCKETNAVIGATOR (last visited June 27, 2025)
1056	Texas Secretary of State, <i>Certificate of Amendment for Neural AI, LLC</i> (July 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. (June 21, 2022)
1058	<i>USPTO Rescinds memorandum addressing discretionary denial procedures</i> (Feb. 28, 2025), https://www.uspto.gov/about-us/news-updates/uspto-rescinds-memorandum-addressing-discretionary-denial-procedures
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, https://developer.nvidia.com/embedded/jetson-tx1 (last visited July 11, 2025)
1064	Neurala, Press Release titled <i>Neurala Brings New AI Technology to NVIDIA Jetson Ecosystem</i> (June 14, 2016), available at https://www.neurala.com/press-releases/neurala-brings-new-ai-technology-nvidia-jetson-ecosystem
1065	NVIDIA AI, <i>How a Boston Startup Plans to Poach Poachers in Africa Using Intelligent Drones</i> , Medium, (July 10, 2017), available at https://medium.com/@NvidiaAI/how-a-boston-startup-plans-to-poach-poachers-in-africa-using-intelligent-drones-ec0a2b32d0e0
1066	<i>Neurala Vision Inspection Automation (VIA) Software Brings New Technology to Visual Inspection</i> , Neurala, https://www.neurala.com/tech (last visited July 11, 2025)
1067	Redline Showing Proposed Modifications to the Default Protective Order
1068	File History for U.S. Patent No. 8,648,867 (Appl. No. 11/860,254)

I. STATEMENT OF THE PRECISE RELIEF REQUESTED

NVIDIA requests rehearing of the Director's July 31, 2025 Decision Granting Patent Owner's Request for Discretionary Denial and Denying Institution of *Inter Partes* Review. Paper 16.

The Director's decision referenced the expected trial date in the parallel District Court litigation and the settled expectations of the parties. However, 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 '461 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 accord proper weight to the recent issuance of the '461 patent. This patent's lack of time in force negates any settled expectations of Patent Owner.

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." 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 13 ("Opp."), 19–20, 45–46 (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. Decision, 2. Indeed, the Director has declined to discretionarily deny petitions on patents that have been in force for years longer than the '461 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 '461 patent only issued in 2023. While the Director admitted that “ordinarily such circumstances would counsel against discretionary denial,” it found that the patent’s prior assignee had sent NVIDIA a presentation that included a discussion of the original patent from which the '461 patent issued. Decision, 3. This presentation—which was shared six years *before* the '461 patent issued—cannot establish that Patent Owner or its predecessor-in-interest had any settled expectations in the '461 patent. Instead, the '461 patent’s recent issuance negates any settled expectations of Patent Owner. Because the Director failed to accord it proper weight, rehearing is warranted.

IV. CONCLUSION

NVIDIA respectfully requests that the Director reconsider its decision granting discretionary denial of the Petition for *inter partes* review of the '461 patent and refer the Petition to the Board for a hearing on the merits.

DATED: August 28, 2025

Respectfully Submitted,

/Brian M. Buroker/

Brian M. Buroker (Reg. No. 39,125)
GIBSON, DUNN & CRUTCHER LLP
1050 Connecticut Ave N.W.
Washington, D.C. 20036
Phone: (202) 955-8500
Fax: (202) 467-0539
Email: bburoker@gibsondunn.com

Attorney for Petitioner
NVIDIA Corporation

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:

weatherwax@lowensteinweatherwax.com
lowenstein@lowensteinweatherwax.com
hendifar@lowensteinweatherwax.com
courtney@lowensteinweatherwax.com
woo@lowensteinweatherwax.com
NeuralAI-IPRs@lowensteinweatherwax.com

DATED: August 28, 2025

By: /Brian M. Buroker/

Brian M. Buroker (Reg. No. 39,125)
GIBSON, DUNN & CRUTCHER LLP
1050 Connecticut Ave N.W.
Washington, D.C. 20036
Phone: (202) 955-8500
Fax: (202) 467-0539
Email: bburoker@gibsondunn.com

*Attorney for Petitioner
NVIDIA Corporation*