

AI research, without the shortcuts

Papers, model cards and source notes from AI Search's October 11, 2026 news roundup.

What is included

31 individually downloadable editorial source briefs cover 18 non-mathematics topics and 13 mathematics manuscripts or companions. Four unmodified original research PDFs are included separately, together with a licensed, reformatted EmbeddingGemma 2 model-card text PDF. These are different document types; the briefs are not the papers.

What is not included

This is not an archive of all 719 manuscripts in the linked mathematics collection. Its four discussed mathematics themes are mapped to primary and supporting manuscripts. The Higgsfield sponsor segment is excluded because it is advertising, not a research paper.

Why some originals are links only

Some papers reserve reuse rights or only license distribution by arXiv; others restrict redistribution to noncommercial uses. The mathematics repository's general Apache license was not treated as explicit paper-specific clearance. These items have official links and original summaries, not unauthorized mirrors.

The headline needs boundaries

The mathematics claims have not been independently verified here. Predicted material properties are not manufactured-device results. Plant variant ranking is not prospective breeding validation. Model demos and vendor evaluations are not universal performance guarantees.

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[Source video: AI Search \[53\]](#)

The following pages are original Managing Expectations summaries. All source manuscripts retain their own authorship and licensing.

WorldPlay2: Extending Real-Time Interactive World Models in Control and Horizon

Original summary — NOT the original paper or model card.

paper identified preprint · 2026-09-28 [1]

Authors/source: Haiyu Zhang, Wenqiang Sun, Tengfei Wang, Junta Wu, Jun Zhang, Yunhong Wang et al. (full author list in manifest)

Coverage: Video topic

What the source reports

Interactive world model combining factorized action/semantic controls, compressed historical memory, and Stable Forcing distillation for real-time, longer-horizon generation. [1]

Managing expectations

Characters can drift visually and semantically over long rollouts; infinite-horizon stability and geometric consistency remain unsolved. [1]

Original document and sharing status

The original paper has a noncommercial license. Because the site's qualifying noncommercial status is not established, this package links to the official original instead of rehosting it.

Recorded rights: CC BY-NC-SA 4.0 [3]

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MotionSpaceFlow: Representation-Aware Flow Matching in Direct Motion Space

Original summary — NOT the original paper or model card.

paper identified preprint · 2026-09-28 [4]

Authors/source: Qing Yu, Kent Fujiwara

Coverage: Video topic

What the source reports

Text-to-human-motion flow matching directly in full-resolution motion space without a learned encoder/decoder. Representation-aware attention and noise scaling support incremental and absolute-coordinate motion; the XYZ variant adds inference-time joint/frame constraints. [4]

Managing expectations

Evaluated on HumanML3D and SnapMoGen only. Full-resolution sequences raise long-motion compute costs. Linear coordinate constraints do not guarantee physical feasibility, collision avoidance, contact, or joint limits. [4]

Original document and sharing status

The original source remains available at the official links below. Full-document redistribution permission was not established, or this topic has no standalone paper. Only this original summary is reproduced here.

Recorded rights: arXiv.org perpetual non-exclusive license [6]

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Kandinsky 6.0 Video: Foundation Models for Synchronized Video and Audio Generation

Original summary — NOT the original paper or model card.

paper identified preprint · 2026-10-04 [7]

Authors/source: Team Kandinsky, Julia Agafonova, Bulat Akhmatov, Mikhail Aksyutin, Grigorii Alekseenko, Anastasia Aliaskina et al. (full author list in manifest)

Coverage: Video topic

What the source reports

A 3B Lite and 29B Pro diffusion-model family producing synchronized five-second audio/video. Dual-stream CrossDiT connects pretrained video and audio streams; super-resolution raises SD outputs to Full HD. [7]

Managing expectations

Five-second duration, native SD resolution, and remaining visual/audio-quality gaps against leading proprietary systems. Full HD is upscaled rather than native. The same report covers the super-resolution model. [7]

Original document and sharing status

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ALoDLM: Adaptively Looped Diffusion Language Models

Original summary — NOT the original paper or model card.

paper identified preprint · 2026-10-03 [10]

Authors/source: Liancheng Fang, Zhuowei Li, Youngeun Kim, Tianchen Zhao, Rajat Koner, Jiaye Wu et al. (full author list in manifest)

Coverage: Video topic

What the source reports

Adaptively looped diffusion language models at 1.7B and 8B scales. Shared-layer recurrence preserves unresolved token states, commits confident tokens, and learns token-specific compute allocation; authors evaluate eleven benchmarks. [10]

Managing expectations

Longer time to first token can hurt short or latency-sensitive responses. Throughput depends on input difficulty and domain; underrepresented domains can erase or reverse speed advantages over optimized autoregressive baselines. [10]

Original document and sharing status

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GenIA: Generative Reconstruction with Test-Time Input Alignment

Original summary — NOT the original paper or model card.

paper identified preprint · 2026-10-08 [12]

Authors/source: Stefano Esposito, Naama Pearl, Polina Karpikova, Samuel Rota Bulò, Lorenzo Porzi, Peter Kotschieder et al. (full author list in manifest)

Coverage: Video topic

What the source reports

Test-time alignment framework for frozen SAM3D reconstruction, using geometry-grounded pose, visibility-aware observation fusion, rendering guidance, and optional refinement; supports monocular, multi-view and externally supplied dynamic geometry. [12]

Managing expectations

Dynamic geometry depends on an external predictor. Coarse shape is not directly grounded in observed silhouette/depth. Rotation remains prior-driven, and errors in masks, depth or cameras can harm rendering supervision. [12]

Original document and sharing status

The original paper has a noncommercial license. Because the site's qualifying noncommercial status is not established, this package links to the official original instead of rehosting it.

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FlashDexRetarget: Accelerating Dexterous Manipulation Data Generation through Multi-Motion Retargeting

Original summary — NOT the original paper or model card.

paper identified preprint · 2026-10-04 [14]

Authors/source: Kyungmin Lee, Sibeon Kim, Dongyoon Hwang, Yoonsang Oh, Donghu Kim, Youngdo Lee et al. (full author list in manifest)

Coverage: Video topic

What the source reports

Multi-reference reinforcement-learning retargeting shares policies across human hand-object demonstrations to generate robot trajectories. Authors report 90% success on a 50-motion benchmark at roughly 30 GPU-hours, versus roughly 46% and 3,000 GPU-hours for CHORD. [14]

Managing expectations

Needs relatively clean human hand-object trajectories, accurate geometry and privileged simulator information. Generalization to unseen motions/embodiments and observation-only real-world deployment remain future work; benchmark results are not universal robot competence. [14]

Original document and sharing status

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Designing enzymes for new-to-nature chemistry and non-natural substrates with AlphaProtein Novo

Original summary — NOT the original paper or model card.

primary preprint identified · 2026-10-05 [16]

Authors/source: Zachary Wu, Josh Abramson, Thomas Frerix, Alexander E. Chu, Ruijie K. Zhang, Luca Schulz et al. (full author list in manifest)

Coverage: Video topic

What the source reports

A generative enzyme-design research pipeline reports experimentally tested catalysts for selected challenging chemistry, alongside improved performance on model reactions. [16]

Managing expectations

Preprint; authors report commercial interests and a provisional patent. Selected laboratory demonstrations do not establish general performance for arbitrary reactions or industrial deployment. [16]

Original document and sharing status

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BOTANIC-1: a series of long-context plant genomic foundation models in the agentic era

Original summary — NOT the original paper or model card.

primary preprint identified · 2026-09-07 [\[18\]](#)

Authors/source: Amélie Barozet, Vincent Cabeli, Jean Ogier du Terrail, Alexey Rukhovich, Thomas Janssoone, Gary Klajer et al. (full author list in manifest)

Coverage: Video topic

What the source reports

Plant genomic foundation-model family; models evaluate genomic variation and support a generalist AI agent as a specialist analysis tool. [\[18\]](#)

Managing expectations

Retrospective benchmarks and a known causal variant; prospective lab validation is still required. Case study starts with an already narrowed chromosome region; full-genome scoring ranked the true variant sixteenth, not first. Authors are or were employed by Living Models; model/weights restrictions are separate from the paper CC BY license. [\[18\]](#)

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Two magnets that add up to zero: a computational ledger for YBaMnFeO5 and KV[Cr(CN)6]

Original summary — NOT the original paper or model card.

NO STANDALONE NEW RESEARCH PAPER FOUND · 2026-10-04 [20]

Authors/source: compensated-magnet-ledger contributors (computations by Claude agents, Anthropic)

Coverage: Video topic

What the source reports

AI-assisted DFT study proposes YBaMnFeO5 and re-identifies the previously synthesized KV[Cr(CN)6] as candidate Luttinger-compensated semiconductors. [20]

Managing expectations

Neither band gap, conductivity nor spin polarization has been measured for these claimed properties. YBaMnFeO5 ordering may be inaccessible by standard synthesis; disorder destroys the proposed effect. KV[Cr(CN)6] evidence concerns one hydrated powder; hydration calculations differ by method. Ideal-crystal DFT omits reliably resolved spin–orbit/orbital effects and exact finite-temperature compensation. [20]

Original document and sharing status

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Recorded rights: Repository data and prose: CC BY 4.0; code MIT; this does not license cited third-party papers [21]

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TERRA: Terrain-Aware Reconstruction, Retargeting and Control for Musculoskeletal Locomotion

Original summary — NOT the original paper or model card.

primary preprint identified · 2026-09-29 [22]

Authors/source: Simos, Merkourios, Li, Chengkun, Ziliotto, Bianca, Mathis, Alexander

Coverage: Video topic

What the source reports

Reconstructs task-relevant terrain from motion alone, retargets it to a musculoskeletal body and trains one muscle-actuated simulation policy using a 9.4-hour training split of an 11.3-hour library from five datasets. [22]

Managing expectations

Evaluation is in simulation and on supported terrain families. Task-relevant support geometry from motion is not complete reconstruction of unseen scenery. Dynamic primitive geometry, online retargeting and moving surfaces remain open challenges (paper conclusion). Physiological comparison shows visible EMG timing/shape mismatches, not complete equivalence to measured human movement. Not best on every terrain: TERRA+Voronoi performed better on stairs in reported held-out tracking. [22]

Original document and sharing status

The original source remains available at the official links below. Full-document redistribution permission was not established, or this topic has no standalone paper. Only this original summary is reproduced here.

Recorded rights: arXiv perpetual non-exclusive distribution license [22]

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CoDimRecon: Agentic Reconstruction of Sim-Ready 3D Scenes with Deformable Curves, Surfaces, and Volumes

Original summary — NOT the original paper or model card.

primary preprint identified · 2026-10-03 [24]

Authors/source: Xie, Shuzhao, Wang, Lelin, Lin, Guying, Wang, Zhi, Li, Minchen

Coverage: Video topic

What the source reports

Multi-view RGB-to-simulation agentic pipeline reconstructs rigid and articulated objects plus deformable curves, surfaces and volumes, with simulated robot tests. [24]

Managing expectations

Six scene reconstruction benchmarks (three Replica and three ScanNet++ scenes). Deformable results are capability demonstrations rather than a matched quantitative deformable benchmark. Agent-guided physical tests occur in simulation, not a demonstrated sim-to-real guarantee. [24]

Original document and sharing status

The original paper has a noncommercial license. Because the site's qualifying noncommercial status is not established, this package links to the official original instead of rehosting it.

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DistScene: Object-to-Scene Distillation for 3D Scene Generation

Original summary — NOT the original paper or model card.

primary preprint identified · 2026-10-03 [26]

Authors/source: Luo, Kunming, Yan, Hongyu, Deng, Ken, Zhou, Chengcheng, Liu, Tianyu, Li, Haipeng et al. (full author list in manifest)

Coverage: Video topic

What the source reports

Single-image compositional 3D scene generation jointly represents environment and objects, then refines objects using scene context; trains using automatically assembled synthetic scenes distilled from an object generator. [26]

Managing expectations

Indoor results may omit ceilings because training environment assets often omit them. Large outdoor scenes can have holes and lose fine geometry due to finite voxel resolution. Outdoor training corpus is smaller due to compute constraints; project lists code, checkpoints and dataset as coming soon. [26]

Original document and sharing status

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Iris-3B: Going Beyond the Latent with Pixel-Space Diffusion Training, Conversion and Fine-Tuning

Original summary — NOT the original paper or model card.

Research preprint · 2026-10-07 [28]

Authors/source: Hanqiu Li Cai, Chema Garabito

Coverage: Video topic

What the source reports

A three-billion-parameter pixel-space image generator, with experiments in depth estimation and restoration. [28]

Managing expectations

The paper reports no significant downstream improvement from a pixel-space generative prior; neither pixel model beats the compared latent fine-tune on the reported restoration experiment. This negative result matters more than gallery impressions. [28]

Original document and sharing status

An unmodified original paper is included separately under CC0 1.0. This brief does not replace it.

Recorded rights: CC0 1.0 [30]

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EmbeddingGemma 2 model card

Original summary — NOT the original paper or model card.

Model card; documentation, not a standalone research paper · 2026-10-06 [31]

Authors/source: Google DeepMind

Coverage: Video topic

What the source reports

A modular multimodal embedding model maps text, images, audio and video into shared vectors for retrieval and classification. [31]

Managing expectations

Vendor evaluations and device-specific resource measurements are not guarantees on every laptop or phone; data privacy still depends on the application architecture. [31]

Original document and sharing status

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GPT-6 intelligent interface: release source note

Original summary — NOT the original paper or model card.

Product announcement; no separate feature paper identified · 2026-10-07 [\[33\]](#)

Authors/source: OpenAI

Coverage: Video topic

What the source reports

The release describes interactive interfaces in ChatGPT and related model availability. [\[33\]](#)

Managing expectations

A product demonstration is not evidence that generated financial or other tools are validated for real-world decisions. No separate paper for this UI feature was located in the linked release. [\[33\]](#)

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Mistral Large 4: public-preview source note

Original summary — NOT the original paper or model card.

Product announcement; no standalone technical paper linked · 2026-10-06 [\[34\]](#)

Authors/source: Mistral AI

Coverage: Video topic

What the source reports

Mistral announces a multimodal mixture-of-experts model and a public API preview, with coding, agent and enterprise evaluations. [\[34\]](#)

Managing expectations

The announcement promises weights by the end of October; do not describe them as already released at the time of this review. Vendor benchmark results do not establish superiority across all workloads. [\[34\]](#)

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Nano Banana 2.1 model card: source brief

Original summary — NOT the original paper or model card.

Model card, not a research paper · 2026-10-06 [35]

Authors/source: Google DeepMind

Coverage: Video topic

What the source reports

Google documents image-generation and editing capabilities, evaluations and safety measures for the Nano Banana 2.1 release. [35]

Managing expectations

The source is a vendor model card rather than an independent evaluation; generated images and edits can still be inaccurate. [35]

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Claude Haiku 5.5 system card: source brief

Original summary — NOT the original paper or model card.

System card, not an independent research paper · 2026-10-07 [36]

Authors/source: Anthropic

Coverage: Video topic

What the source reports

A system card reports the vendor's capability, safeguards and agentic-safety evaluations for its small model. [36]

Managing expectations

The vendor describes omitted evaluations and a condensed testing approach. Benchmark scores, lower prices and improved injection robustness do not imply universal reliability or immunity to prompt injection. [36]

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Exact Birch–Swinnerton-Dyer Formula from Low Selmer Corank

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 7, 2026 [38]

Authors/source: OpenAI

Coverage: BSD principal

What the source reports

Claims full leading-term BSD only when some full q-power Selmer group has corank 0 or 1; not BSD for every elliptic curve. October 7 version removes an obsolete citation. [38]

Managing expectations

Not listed in current formalization.yaml sources; no verified full-paper formalization established here. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [38]

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The Selmer converse for elliptic curves at every prime

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 7, 2026 [\[41\]](#)

Authors/source: OpenAI

Coverage: BSD companion

What the source reports

Companion: low Selmer corank implies analytic/algebraic ranks and finiteness of Sha, not by itself the entire leading-term formula. [\[41\]](#)

Managing expectations

Not listed in current formalization.yaml sources; no verified full-paper formalization established here. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [\[41\]](#)

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The two-primary Birch–Swinnerton-Dyer formula in Selmer corank at most one

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 6, 2026 [\[42\]](#)

Authors/source: OpenAI

Coverage: BSD companion

What the source reports

Companion: concerns the two-primary part of the leading-term formula; do not equate a single prime component with all-prime full BSD. [\[42\]](#)

Managing expectations

Not listed in current formalization.yaml sources; no verified full-paper formalization established here. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [\[42\]](#)

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The Quasi-Riemann Hypothesis: A Zero-Free Half-Plane $\text{Re}(s) > 7/8$

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · 30 September 2026 [43]

Authors/source: OpenAI

Coverage: quasi-Riemann direct match

What the source reports

Direct match to video 12.5%-edge claim: $\text{Re}(s) > 7/8$. Not the full Riemann hypothesis. Formalization scope excludes later applications. [43]

Managing expectations

Listed in formalization.yaml sources; artifacts inspected, not independently executed. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [43]

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The Quasi-Riemann Hypothesis

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 5, 2026 [44]

Authors/source: OpenAI

Coverage: quasi-Riemann alternate

What the source reports

Alternative weaker $\text{Re}(s) > 11/12$ proof, not the $7/8$ result illustrated in the video. README explicitly records human assistance. [44]

Managing expectations

Not listed in current formalization.yaml sources; no verified full-paper formalization established here. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [44]

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Uniform exclusion of Landau–Siegel zeros

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 1, 2026 [45]

Authors/source: OpenAI

Coverage: quasi-Riemann companion

What the source reports

Companion excludes a uniform near-one real-zero region; does not exclude every real zero throughout $(0,1)$. No explicit absolute constant supplied. [45]

Managing expectations

Listed in formalization.yaml sources; artifacts inspected, not independently executed. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [45]

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Hilbert's tenth problem over the rational numbers

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 6, 2026 [46]

Authors/source: OpenAI

Coverage: Hilbert tenth direct match

What the source reports

Direct match at 18:50: undecidability of existence of a rational zero of arbitrary-variable integer-coefficient polynomials. Not merely a time-complexity lower bound or P versus NP. [46]

Managing expectations

Not listed in current formalization.yaml sources; no verified full-paper formalization established here. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [46]

Original document and sharing status

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A pointwise 2-converse for elliptic curves with rational two-torsion

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 7, 2026 [47]

Authors/source: OpenAI

Coverage: Hilbert tenth companion

What the source reports

Supporting companion to Hilbert tenth family: elliptic curves with nonzero rational two-torsion and low 2-power Selmer corank, not a standalone general undecidability theorem. [47]

Managing expectations

Not listed in current formalization.yaml sources; no verified full-paper formalization established here. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [47]

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Goldfeld's analytic density conjecture and the 2-converse for elliptic curves

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 7, 2026 [\[48\]](#)

Authors/source: OpenAI

Coverage: BSD density-one companion explicitly implied by video

What the source reports

Needed with family 002 for the density-one quadratic-twist BSD claim. Ranks zero and one each density one half for signed squarefree twists ordered by absolute value; not all curves. [\[48\]](#)

Managing expectations

Not listed in current formalization.yaml sources; no verified full-paper formalization established here. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [\[48\]](#)

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The mean analytic rank of quadratic twists of elliptic curves

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 6, 2026 [\[49\]](#)

Authors/source: OpenAI

Coverage: BSD mean-rank context

What the source reports

Related companion about the mean analytic rank tending to one half in the stated twist ordering; not itself a proof of the full BSD leading-term formula. [\[49\]](#)

Managing expectations

Not listed in current formalization.yaml sources; no verified full-paper formalization established here. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [\[49\]](#)

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An Upper Bound of $9/4$ for the Matrix Multiplication Exponent

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · October 2, 2026 [50]

Authors/source: OpenAI

Coverage: matrix direct match

What the source reports

Direct match to exponent 2.25: $\omega(C) \leq 9/4$, asymptotic arithmetic-operation complexity with arbitrary positive exponent slack. Not a demonstrated practical GPU speedup or bit-complexity result. [50]

Managing expectations

Listed in formalization.yaml sources; artifacts inspected, not independently executed. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [50]

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Complex Matrix Multiplication Below 2.258 and Rectangular Bounds

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · September 24, 2026 [\[51\]](#)

Authors/source: OpenAI

Coverage: matrix secondary writeup

What the source reports

Secondary writeup with weaker square bound and rectangular bounds. Numerical integrity checks alone do not execute a proof; certificates do not certify tensor or limiting arguments. [\[51\]](#)

Managing expectations

Listed in formalization.yaml sources; artifacts inspected, not independently executed. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [\[51\]](#)

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Staggered extraction for exact matrix multiplication over every field

Original summary — NOT the original paper or model card.

Repository manuscript; independent validation not established · September 24, 2026 [52]

Authors/source: OpenAI

Coverage: matrix all-fields companion

What the source reports

Companion for every fixed field, with weaker exponent < 2.371054886006746 ; do not substitute universal-field scope for the main complex-field $9/4$ bound. [52]

Managing expectations

Listed in formalization.yaml sources; artifacts inspected, not independently executed. No independent peer-review certification established by these repository materials. This brief reports the manuscript claim; it is not a verification of its proof. [52]

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