Ishaan Sinha

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EDUCATION

Harvard University — Cambridge, MA

Bachelor of Arts, Mathematics and Computer Science (GPA: 3.98) — Sep 2024 - May 2028

Selected Coursework: Math 55a+ b, Data Structures and Algorithms, Theoretical Computer Science, Statistical Inference, Machine Learning, Probability I* and II*, Differential Analysis I* and II* (MIT), Linear and Generalized Linear Models*, Quantum Learning Theory*, AI Alignment*, Foundations of Reinforcement Learning*, Mathematics of Information Processing*, Algebraic Combinatorics (MIT), Algebraic Geometry, Spectral Graph Theory*. * = Graduate-level courses

Activities: Harvard CS Club President, Harvard Math Club Sponsorships Chair, AI Safety Student Team, Harvard Quant Traders, Harvard Dharma, Harvard Chess, Teaching Assistant for Math 55, Putnam Score: 19, Neo Scholar Finalist, John Harvard Scholar

South Brunswick High School — South Brunswick, NJ

Valedictorian (Rank 1/750) — May 2024

NJ Math Olympiad State Champion, 5x AIME Qualifier, USA Physics Olympiad Honorable Mention, Regeneron Science Talent Search Scholar, World Science Scholar, Stanford University Mathematics Camp, NJ Governor's School, Princeton Math Courses: Single Variable Analysis, Multivariable Analysis, Honors Linear Algebra, Topology, Fourier Series, Measure Theory

EXPERIENCE

Amazon Web Services AI — New York City, NY

Software Development Engineering Intern — May - August 2025

- Enhanced orchestration for LLM pipeline behind Amazon Web Service's enterprise language model solution, Amazon Q Business. Designed APIs to track and visualize LLM response steps.
- Created robust pipeline to remove data leakage over long throughput conversations.

Kempner Institute for the Study of Natural and Artificial Intelligence — Cambridge, MA

Student Researcher with Dr. Carvalho — January 2025 - Current

- Developing novel learning algorithms for collaborative reinforcement learning agents. See work here.

Princeton Summer School on Fluid Dynamics and Computer Assisted Proofs — Princeton, NJ

Selected for National Science Foundation funded program — August 2025

- Studied Partial Differential Equations and Neural Networks to solve Fluid Flow problems.

PUBLICATIONS

NiceWebRL: a Python library for human subject experiments with reinforcement learning environments. *NeurIPS 2025 Workshop for Language, Agent, and World Models*. Arxiv Preprint here.

Feeling the Strength but Not the Source: Partial Introspection in LLMs. Arxiv Preprint here.

Characterizing West-Nile Virus Dynamics with Explainable Machine Learning. *Regeneron Science Talent Search*

ACTIVITIES

Harvard Computer Society — Cambridge, MA

President — January 2025 - Present

- Lead the largest and oldest CS organization on campus with over 800 members.
- Organize academic, social, and career events, including course advice, career panels, and study breaks for the computer science community.
- Work with our corporate sponsors to run recruiting events.

Harvard Undergraduate Mathematics Association — Cambridge, MA

Sponsorships Chair — September 2024 - Present

- Secured mid six figure budget in corporate sponsorship.
- Organized over a dozen events for the Harvard math community, with hundreds of attendees.

INTERESTS

- Programming: Python, Pytorch, JAX, Julia, Java, Pandas, Statsmodels, Sklearn, Numpy
- Hobbies: Chess(rated 2300, top 99.8%, on chess.com)
- Violin, Tennis, Poker, Cricket