Adam Mhatre

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Education

Stanford University — GPA: 4.08

B.S. Physics

- Relevant Math Courses: Multivariable Calculus, Linear Algebra, Diff. Equations with Linear Algebra and Fourier Methods, Partial Differential Equations of Mathematical Physics
- Relevant Physics Courses: Electricity and Magnetism I, Electricity and Magnetism II, Quantum Mechanics I, Quantum Mechanics II, Advanced Topics in Quantum Mechanics, Statistical Mechanics I, Advanced Mechanics, Computational Physics

Menlo School — GPA: 4.2 August 2018 - June 2022

Specialized in Physics and Computer Science

- Relevant Courses: AP Computer Science, Advanced Topics in Computer Science, AP Physics 2, Advanced Topics in Physics, BC Calculus
- **AP Test Scores**: Calculus BC: **5**, AP MacroEcon: **5**, AP MicroEcon: **5**, AP Physics C E&M: **5**, AP English: **5**, AP CS A: **5**, AP Physics 2: **5**

Experience

Co-Founder & CTO | Photonium | YCombinator Spring 2025 March 2025 – Present

- Built and maintain a production agentic AI system for optical engineering (cameras, LiDAR, semiconductor lithography, medical imaging), enabling engineers to query, analyze, and iterate on complex lens systems through natural language.
- Developed a native parser for industry-standard optical design files (.zmx), enabling structured retrieval and reasoning over proprietary design libraries without existing open-source tooling.
- Designed a robust evaluation framework benchmarking performance across aberration diagnosis, optical prescription generation, and design execution stages.
- Built observability and telemetry layer to detect and surface agent failures in production, enabling rapid prompt iteration and regression tracking.

Simulation Engineer Intern | Avalanche Energy June 2024 – September 2024

- Simulated fusion-relevant plasmas using WarpX, a Particle-in-Cell code, to explore various parameters and their effect on the fusion energy gain factor (Q value) value for the Orbitron, an electrostatic fusion reactor.
- Work included running simulations on AWS GPU clusters, writing analysis scripts, using Paraview (a scientific visualization tool), presenting and summarizing my findings in a detailed write-up.

Research Intern | Kavli Institute for Particle Astrophysics and Cosmology (KIPAC) June 2023 - June 2025

- **First-author publication:** "AGN with Massive Black Holes Have Closer Galactic Neighbors," *Astronomy & Astrophysics* (2025). DOI
- Pioneered use of kth-Nearest-Neighbors in the context of measuring Active Galactic Nuclei (AGN) clustering, discovering more massive AGN tend to rely in denser cosmic environments with a confidence level of 4.8 SD

Extracurricular

Cryptocurrency Club

- Co-founded and led cryptocurrency club at Menlo School with over 100 members
- Led educational workshops on the underlying cryptography of various cryptocurrencies, including Proof of Work, Proof of Stake, and Proof of Time

Skills

Programming Languages: Python, C++, SQL
Technologies: Pandas, NumPy, SciPy, AstroPy, Conda, Git, AWS
Test Scores: ACT: 36.0
Soft Skills: Goal-Oriented, Problem-Solving, Collaboration

Interests

Classically-Trained Pianist (15 Years of Experience), Top 0.05% Ranked in LoL North America, PowerLifting, Epic Fantasy/Sci-Fi Reading