

Wendy Q. Sun

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EDUCATION

Massachusetts Institute of Technology

2022 - 2026

Double major: B.S. in Physics

B.S. in Artificial Intelligence & Decision Making

Minor in Mathematics

GPA : 4.9/5.0

HONORS

Phi Beta Kappa Honor Society (top 10% of the graduating class)

2026

Sigma Pi Sigma Physics and Astronomy Honor Society

2026

Tau Beta Pi Engineering Honor Society

2026

PUBLICATIONS

† marks equal contribution.

Primary Author Papers

2. **W. Q. Sun**, R. P. Naidu, J. Matthee, A. de Graaff, et al., *Little Red Dot – Host Galaxy = Black Hole Star: A Gas-Enshrouded Heart at the Center of Every Little Red Dot*, [OJAp](#), 9, 2026.
1. C. Loughridge†, **Q. Sun†**, et al. *DafnyBench: A Benchmark for Formal Software Verification*, [The 4th Workshop on Mathematical Reasoning and AI at NeurIPS](#), 2024.

Contributing Author Papers

7. B. Wang et al., *Water absorption confirms cool atmospheres in two little red dots*, [arXiv](#).
6. A. Torralba et al., *A Black Hole Star at Cosmic Noon: Extreme Balmer break, photospheric continuum, and broad absorption by thick winds in a Little Red Dot at $z=1.7$* , [arXiv](#), submitted to ApJL.
5. Z. Liu et al., *How I Wonder What You Are – JWST’s Little Red Dots do not TWINKLE*, [arXiv](#), submitted to ApJ.
4. T. Li et al., *Fractal Generative Models*, [Transactions of Machine Learning Research \(TMLR\)](#), 2025.
3. Carr et al., *Focused Skill Discovery: Learning to Control Specific State Variables while Minimizing Side Effects*, [The 2nd Reinforcement Learning Conference \(RLC\)](#), 2025.
2. S. Casper, C. Ezell, et al., *Black-Box Access is Insufficient for Rigorous AI Audits*, [The ACM Conference on Fairness, Accountability, and Transparency \(FAcCT\)](#), 2024.
1. W. Gurnee et al. *Universal Neurons in GPT2 Language Models*, [Transactions of Machine Learning Research \(TMLR\)](#), 2024.

PRESENTATIONS

ISSI Bern, *LRD – Host Galaxy = BH*: A Gas-Enshrouded Heart at the Center of Every LRD*

Meeting, Feb. 2026

RESEARCH EXPERIENCE

Decomposing Little Red Dots

July 2025 - present

MIT Kavli Institute • Advisor: Rohan Naidu

- Decomposed 90+ little red dots from the DAWN JWST Archive into black hole star and host galaxy components.

Fractal Generative Models

Nov. 2024 - Feb. 2025

MIT CSAIL, He Vision Group • Advisors: Tianhong Li, Kaiming He

- Contributed to building and validating fractal generative models that abstract generative models into atomic generative modules.

DafnyBench: A Benchmark for Formal Software Verification

Feb. - Nov. 2024

NSF IAIFI, Tegmark AI Safety Group • Advisor: Max Tegmark

- Built the largest formal software verification benchmark at the time to evaluate large language models' capability at writing formally verifiable code.
- Built a VS Code extension, called **Dafny Autopilot**, that leverages GPT-4o or Claude 3.5 Sonnet to verify that the code written by Copilot is correct (~ 400 installs).

Focused Skill Discovery: Using Per-Factor Empowerment to Control State Variables June - Aug. 2024
Center for Human-Compatible AI, UC Berkeley • Advisor: Cam Allen

- Applied focused skills that change one state factor (given factored states) at a time to more efficient planning.

RELEVANT COURSEWORK

Physics	Astrophysics I (grad), General Relativity (grad), Relativistic Quantum Field Theory I (grad), Statistical Mechanics I (grad), Electromagnetic Theory (grad)
Mathematics	Real Analysis, Design & Analysis of Algorithms, Numerical Analysis, Theory of Computation