Yiyi Cai

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Education

2026-	Doctor of Philosophy, Computer Science, Stanford University
2025-26*	Master of Philosophy, Advanced Computer Science, University of Cambridge
2021-25	Bachelor of Science Electrical Engineering, California Institute of Technology

Awards & Honors

2025 Stanford Graduate Fellowship	
2025 National Science Foundation Graduate Student Fellowship (declined)	
2025 National Defense Science and Engineering Graduate Fellowship (decl	ined)
2024 Outstanding Paper Prize at 2024 TQC	
2023 Mellon Mays Undergraduate Fellowship	
2023 Arthur R. Adams Summer Undergraduate Research Fellowship	
2022 Doris Everhart Quantum Summer Undergraduate Research Fellowsh	р

Research Experience

2023-	Student Researcher, Institute of Quantum Information and Matter, California Insti-
	tute of Technology, (Advisor: John Preskill)
2024	Quantum Computing Research Analyst, Global Technology Applied Research, JP-
	Morgan Chase & Co.
2021 - 2023	Missions Operations & Ground Data Science Intern, Lunar Trailblazer Mission,
	NASA & California Institute of Technology (Advisor: Bethany Ehlmann)
2022	Student Researcher, Quantum Machine Learning for High Energy Physics, Califor-
	nia Institute of Technology (Advisor: Maria Spiropulu)

Publications

Conference Proceedings

• Yiyi Cai, Yu Tong, and John Preskill. "Stochastic Error Cancellation in Analog Quantum Simulation". In 19th Conference on the Theory of Quantum Computation, Communication and Cryptography (TQC 2024).

*Expected.

• Elena Scire, Lee Bennett, Judy Adler, Sergio Fajardo-Acosta, Robert Fogg, Elise Furlan, Jacob Llamas, Peter Bahariance, **Yiyi Cai**, Trinity Chung, Garni Gharibian, Emily Hu, Julianna Jin, Matteo Kimura, Aaron Lee, Michael Mansour, Mahak Mathur, Andy Sun, Jasmine Terrones, Jingchao Zhong, and Bethany Ehlmann. "Lunar trailblazer ground system development". *Proc. SPIE 13098, Observatory Operations: Strategies, Processes, and Systems X*, 130981K (2024).

Talks

- "Stochastic Error Cancellation in Analog Quantum Simulations"
 - Theory of Quantum Computation, Communication and Cryptography; Sep. 2024
 - Mellon Mays Undergraduate Fellowship Western Regional Conference; Nov. 2023
 - Caltech Summer Undergraduate Research Fellowship Seminar; Aug. 2023
- "Lunar trailblazer ground system development" SPIE Astronomical Telescopes + Instrumentation; Jun., 2024
- "Towards Producing realistic LHC QCD simulation using Quantum Generative Adversarial Network through a Quantum Circuit Ansatz Search" Caltech Summer Undergraduate Research Fellowship Seminar; Oct. 2022

Teaching

California Institute of Technology

Teaching Assistant

Spring 2025	IDS 157 Statistical Inference
Fall 2025	EE 111 Signal-Processing Systems and Transforms
Spring 2024	EE 10b Embedded Systems
Winter 2024	EE 10a Digital Logic
Fall 2024	EE 55 Mathematics of Electrical Engineering

Last updated: April 26, 2025