

Seyoon Ragavan

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32 Vassar St, G-578 - Cambridge, MA 02139 - USA

EDUCATION

- **Massachusetts Institute of Technology** June 2024 - present
Ph.D. Candidate in Electrical Engineering and Computer Science Cambridge, MA
- **Massachusetts Institute of Technology** September 2023 - May 2024
S.M. in Electrical Engineering in Computer Science Cambridge, MA
- **Princeton University** September 2017 - May 2021
Bachelor of Arts in Mathematics, Highest Honours Princeton, NJ
 - Certificates in Applications of Computing, Applied Mathematics, and Cognitive Science
 - GPA: 3.96/4

PUBLICATIONS

- [1] Gregory D. Kahanamoku-Meyer, Seyoon Ragavan, and Katherine Van Kirk. Parallel spooky pebbling makes Regev factoring more practical. [QIP 2026, [ePrint](#), [code](#)]
- [2] Alexander Poremba, Seyoon Ragavan, and Vinod Vaikuntanathan. Cloning games, black holes and cryptography. [ITCS 2026, QIP 2026, [ePrint](#)]
- [3] Gregory D. Kahanamoku-Meyer, Seyoon Ragavan, Vinod Vaikuntanathan, and Katherine Van Kirk. The Jacobi factoring circuit: quantum factoring with near-linear gates and sublinear space. [STOC 2025, QIP 2026, [ePrint](#)]
- [4] Seyoon Ragavan, Neekon Vafa, and Vinod Vaikuntanathan. Indistinguishability obfuscation from bilinear maps and LPN variants. [TCC 2024, [ePrint](#)]
- [5] Seyoon Ragavan and Vinod Vaikuntanathan. Space-efficient and noise-robust quantum factoring. **Best Paper Award, invited to the Journal of Cryptology**. [CRYPTO 2024, [ePrint](#)]
- [6] Orestis Plevrakis, Seyoon Ragavan, and S. Matthew Weinberg. On the cut-query complexity of approximating max-cut. [ICALP 2024, [arXiv](#)]
- [7] Ryan Arbon, Mohammed Mannan, Michael Psenka, and Seyoon Ragavan. A proof of the triangular Ashbaugh–Benguria–Payne–Pólya–Weinberger inequality. [Journal of Spectral Theory 2022, [code](#)]
- [8] Arjun Sai Krishnan and Seyoon Ragavan. Morphology-aware meta-embeddings for Tamil. [NAACL Student Research Workshop 2021]

MANUSCRIPTS

- [1] Alexandra Henzinger and Seyoon Ragavan. Two-server private information retrieval in sublinear time and quasilinear space. [[ePrint](#), [code](#)]
- [2] Seyoon Ragavan. Regev factoring beyond Fibonacci: optimizing prefactors. [[ePrint](#)]

TALKS

Two-Server Private Information Retrieval in Sublinear Time and Quasilinear Space

- MIT Cryptography and Information Security Seminar, with Alexandra Henzinger November 2025
- MIT Simple Person's Applied Mathematics Seminar October 2025

The Jacobi Factoring Circuit: Classically Hard Factoring in Sublinear Quantum Space and Depth

- Tufts University Quantum Computing Seminar September 2025
- UNSW Number Theory Days August 2025
- Ruhr University Bochum Quantum Information Workshop April 2025
- Simons Institute Quantum Colloquium March 2025
- MIT Quantum Information Seminar March 2025
- CMU Theory Seminar March 2025

Cloning Games, Black Holes and Cryptography

- CMU CyLab Crypto Seminar March 2025
- Kyoto University Quantum Cryptography Workshop October 2025

Factoring with a Quantum Computer: The State of the Art

• University of Technology Sydney	August 2025
• University of Sydney	August 2025
• QuEra Computing, with Gregory D. Kahanamoku-Meyer and Katherine Van Kirk	April 2025
• MIT Schwarzman College of Computing Cryptography and Security Day	January 2025
Indistinguishability Obfuscation from Bilinear Maps and LPN Variants	
• MIT Cryptography and Information Security Seminar	September 2024
Space-Efficient and Noise-Robust Quantum Factoring	
• CRYPTO 2024	August 2024
• IBM Quantum Seminar	November 2023
• Yale Quantum Institute	November 2023
The Cut-Query Complexity of Approximating Max-Cut	
• ICALP 2024	July 2024

AWARDS AND FELLOWSHIPS

• William A. Martin S.M. Thesis Award	2025
<i>Massachusetts Institute of Technology (for outstanding master's theses in computer science)</i>	
• Jane Street Graduate Research Fellowship , finalist	2025
• CRYPTO 2024 Best Paper Award	August 2024
• Akamai Presidential Fellowship , MIT	September 2023 - May 2024
• George B. Covington Prize in Mathematics	May 2021
<i>Princeton University (top prize for overall excellence in mathematics)</i>	
• Phi Beta Kappa , elected to the Princeton chapter	May 2021
• Sigma Xi , elected to the Princeton chapter	May 2021
• Peter Greenberg Memorial Prize	May 2020
<i>Princeton University (for junior accomplishments in mathematics)</i>	
• Putnam Competition	2017-2019
<i>Honourable Mention (top 100 participants across colleges in the USA)</i>	
• Shapiro Prize for Academic Excellence	2019
<i>Princeton University (top 2% of undergraduate students)</i>	
• Manfred Pyka Memorial Prize in Physics , Princeton University	2018
• International Mathematical Olympiad	2013-2016
<i>Represented Australia four times: 1 gold and 3 bronze medals</i>	

SELECTED COURSEWORK

Massachusetts Institute of Technology

- Foundations of Cryptography
- Quantum Cryptography
- Advanced Topics in Cryptography: Proof Systems
- Advanced Topics in Cryptography: From Lattices to Program Obfuscation
- Advanced Complexity Theory

Princeton University

- Advanced Algorithm Design
- Information Theory
- Graph Algorithms
- Learning Theory
- Natural Language Processing
- Analytic Number Theory
- Quantum Mechanics

TEACHING AND SERVICE

• Program Committee Member , QIP	2025-2026
• Teaching Assistant , MIT (Mathematics for Computer Science)	Fall 2025
• International Mathematical Olympiad	2025
<i>Problem Selection Committee Member and Coordinator (Grader)</i>	
• Trainer and Grader , for Australia's International Mathematical Olympiad team	2017, 2020-2024
• Teaching Assistant , Princeton University (Economics and Computing)	Spring 2019
• Peer Academic Advisor , Princeton University (for 30 first-years and sophomores)	2019-2021

EXPERIENCE

- **Google Quantum AI**, Student Researcher *Upcoming, Summer 2026*
- **Citadel Securities**, Quantitative Research Analyst *August 2021 - January 2023*
- **Citadel Securities**, Quantitative Research Analyst Intern *Summer 2020*
- **Princeton University**, Research Intern, Theoretical Machine Learning *Summer 2019*
- **Afari** (student-founded social media startup), Software Engineering Intern *Summer 2018*

INTERESTS AND SKILLS

Languages: English, Tamil

Technical: Python, NumPy, pandas, scikit-learn, xarray, PyTorch, Slurm, AWS, C++, Java

Music: Mridangam (South Indian classical drum), drum kit, voice