

Seyoon Ragavan

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EDUCATION

Massachusetts Institute of Technology June 2024-present
Ph.D. Candidate in Electrical Engineering and Computer Science

Massachusetts Institute of Technology September 2023-May 2024
S.M. in Electrical Engineering and Computer Science

Princeton University September 2017-May 2021
Bachelor of Arts in Mathematics, Highest Honours GPA: 3.96
Certificates in Applications of Computing, Applied Mathematics, and Cognitive Science

PUBLICATIONS

- Seyoon Ragavan, Neekon Vafa, and Vinod Vaikuntanathan. Indistinguishability obfuscation from bilinear maps and LPN variants. [[TCC 2024](#)]
- Seyoon Ragavan and Vinod Vaikuntanathan. Space-efficient and noise-robust quantum factoring. **Best Paper Award**. [[CRYPTO 2024](#), [ePrint](#)]
- Orestis Plehrakis, Seyoon Ragavan, and S. Matthew Weinberg. On the cut-query complexity of approximating max-cut. [[ICALP 2024](#), [arXiv](#)]
- 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](#)]
- Arjun Sai Krishnan and Seyoon Ragavan. Morphology-aware meta-embeddings for Tamil. [[NAACL Student Research Workshop 2021](#)]

MANUSCRIPTS

- 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. [In preparation]
- Alexander Poremba, Seyoon Ragavan, and Vinod Vaikuntanathan. Cloning games, black holes and cryptography. [[arXiv](#), [ePrint](#)]
- Seyoon Ragavan. Regev factoring beyond Fibonacci: optimizing prefactors. [[ePrint](#)]

TALKS

Indistinguishability Obfuscation from Bilinear Maps and LPN Variants

- MIT CIS 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

CRYPTO 2024 Best Paper Award	2024
Akamai Presidential Fellowship, MIT	2023-24
George B. Covington Prize in Mathematics , Princeton University (top prize for overall excellence in mathematics)	2021
Phi Beta Kappa , elected to the Princeton chapter	2021
Sigma Xi , elected to the Princeton chapter	2021
Peter Greenberg Memorial Prize , Princeton University (for junior accomplishments in mathematics)	2020
Putnam Competition , Honorable Mention (top 100 participants across colleges in the USA)	2017-2019
Shapiro Prize for Academic Excellence , Princeton University (top 2% undergraduate students)	2019

Manfred Pyka Memorial Prize in Physics, Princeton University
International Mathematical Olympiad, represented Australia four times: 1 gold and 3 bronze medals

2018
2013-2016

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 MENTORING

TA for Economics and Computing at Princeton University 2019
Trainer and grader for Australia's International Mathematical Olympiad team 2017, 2020-present
Peer Academic Advisor (for 30 first-years and sophomores) 2019-2021

EXPERIENCE

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 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