

Quang Dao

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📄 <https://quangvdao.github.io/>

Google Scholar

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Education

- 2022–Present **Carnegie Mellon University, Pittsburgh, PA.**
PhD in Computer Science. Advisors: Aayush Jain and Riad Wahby
- 2020–2022 **University of Michigan, Ann Arbor, MI.**
MA in Mathematics. Advisor: Paul Grubbs
- 2016–2020 **Columbia University, New York, NY.**
BA in Mathematics and Computer Science

Research Interests

I am interested in building various **advanced cryptographic primitives** that are **secure against quantum computers**. A particular focus of mine has been on constructing and analyzing **zero-knowledge proof systems** and other primitives in **secure computation**.

Publications & Preprints

5. **Quang Dao**, Aayush Jain. Lossy Cryptography from Code-Based Assumptions. *In submission*.
4. **Quang Dao**, Yuval Ishai, Aayush Jain, Huijia Lin. Multi-party Homomorphic Secret Sharing and Sublinear MPC from Sparse LPN. *CRYPTO 2023*.
3. **Quang Dao**, Jim Miller, Opal Wright, Paul Grubbs. Weak Fiat-Shamir Attacks on Modern Proof Systems. *IEEE S&P 2023*. **Distinguished Paper Award**.
2. **Quang Dao**, Paul Grubbs. Spartan and Bulletproofs are simulation-extractable (for free!). *EUROCRYPT 2023*.
1. **Quang Dao**, Julian Wellman, Calvin Yost-Wolff, Sylvester W. Zhang. Rowmotion Orbits of Trapezoid Posets. *The Electronic Journal of Combinatorics*, P2-29, 2022.

Talks

5. Lossy Cryptography from Code-Based Assumptions
 - UToronto Theory Seminar (Mar 2024)
4. Multi-party Homomorphic Secret Sharing and Sublinear MPC from Sparse LPN
 - JP Morgan AlgoCRYPT Seminar (Dec 2023)
 - CMU Crypto Seminar (Nov 2023)
 - NTT Research Seminar (Oct 2023)
 - CyLab Partners Conference (Oct 2023)
 - Vietnam Mathematical Congress (Aug 2023)

3. Weak Fiat-Shamir Attacks on Modern Proof Systems
 - Real World Crypto (Mar 2024)
 - CMU CyLab Security Seminar (Nov 2023)
 - Cornell Security Seminar (Sep 2023)
 - NYU Crypto Reading Group (Sep 2023)
 - Workshop on Attacks in Cryptography (Aug 2023)

2. Spartan and Bulletproofs are simulation-extractable (for free!)
 - Stanford Crypto Reading Group (May 2023)
 - Telecom Paris Seminar (May 2023)
 - Lattices Meet Hashes Workshop, EPFL (May 2023)
 - CMU Crypto Seminar (April 2023)

Service

Co-Organizer 2022-2023: CMU Crypto Seminar
 External 2024: STOC, EUROCRYPT
 Reviewer 2023: ASIACRYPT, TCC, FOCS
 2022: CRYPTO, EUROCRYPT

Teaching

Fall 2023 **Undergraduate Quantum Computation**, *Teaching Assistant*, CMU.
 2020–2021 **Calculus I**, *Lead Instructor*, University of Michigan.

Honors & Awards

2023 **Distinguished Paper Award**
 Awarded to top 6% of accepted papers at IEEE Security & Privacy 2023

2020 **Russell C. Mills Award**
 Awarded to 2 seniors for excellence in computer science at Columbia

2017 - 2019 **Van Amringe Math Prize**
 Awarded annually to the top 3 non-senior students in math at Columbia

2016, 2018 **Putnam Math Competition**. Honorable Mention (top 50)

2016 **International Math Olympiad**. Silver Medal

Miscellaneous

Languages English (fluent), Vietnamese (native), French (elementary)