

Elizabeth (Eli) Margolin

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Education

University of Pennsylvania

PHD COMPUTER AND INFORMATION SCIENCE

- Advisor: Dr. Sebastian Angel
- Research Focus: Applications of zero knowledge proofs, privacy in large scale distributed systems

Philadelphia, PA

2021 - 2026 [anticipated]

Duke University

MS ECONOMICS AND COMPUTATION

- Advisor: Dr. Charles Becker and Dr. Ashwin Machanavajjhala

Durham, NC

2017 - 2018

Stanford University

BA POLITICAL SCIENCE WITH HONORS IN INTERNATIONAL SECURITY

Stanford, CA

2013 - 2017

Professional Experience

Summer 2024 **Research Intern** Brave Software

- Developed novel Zero Knowledge protocols for efficient fraud detection
- Advanced existing cryptographic tooling to work with modern TLS implementations

2019-2022 **Security Engineer** Meta Platforms

- Created and maintained company wide tooling for insider threat detection
- Automated existing tooling to scale alert processing, while reducing false positives
- Minimized the privacy impact of security tooling, in conjunction with legal and policy stakeholders
- Returned as a Contingent Worker in 2023 to provide continued support to the Legal Investigations team

2019 **Research Assistant** Ashwin Machanavajjhala, Duke University

- Analyzed the impact of differential privacy on the Voting Rights Act for the 2020 U.S. Census, in conjunction with U.S. Census Bureau

Publications

S.Angel, S.Celi, **E.Margolin***, P.Mishra, M.Sander, J.Woods. *Coral: Fast Succinct Non-Interactive Zero-Knowledge CFG Proofs*. ePrint

S.Angel, E.Ioannidis, **E.Margolin***, S.Setty, J.Woods. *Reef: Fast Succinct Non-Interactive Zero-Knowledge Regex Proofs*. USENIX Security 2024, Philadelphia, PA, August 2024

E. Margolin, K. Newatia, E. Roth, T. Luo, A. Haeberlen. *Arboretum: A Planner for Large-Scale Federated Analytics with Differential Privacy*. SOSP 2023, Koblenz, Germany, October 2023

C.Becker, P.Devine, H.Dogo, **E.Margolin***. *Marking Territory: Modeling the Spread of Ethnic Conflict in Bosnia and Herzegovina, 1992-1995*. Economic Research Initiatives at Duke (Erid) Working Paper, no. 266

*Authors presented in alphabetical order

Teaching Experience

Fall 2023 **Introduction To Networks And Security**, TA

University of Pennsylvania

Fall 2022 **Introduction to Computer Science**, Instructor

South Woods State Prison

Fall 2022 **Software Systems**, TA

University of Pennsylvania

Spring 2022 **Ethical Algorithm Design**, TA

University of Pennsylvania

Fall 2018 **Elements of Machine Learning**, TA

Duke University