Noemi Glaeser

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Education

University of Maryland*, *College Park, MD* *estimated May 2024*
Max Planck Institute for Security and Privacy (MPI-SP)†, *Bochum, Germany*
Ph.D., Computer Science • *Maryland-Max Planck joint program*
Advised by Jonathan Katz* and Giulio Malavolta†

University of Maryland, *College Park, MD* *May 2021*
M.S., Computer Science (GPA 3.9/4.0)

University of South Carolina Honors College, *Columbia, SC* *May 2019*
B.S., Mathematics • B.S.C.S., Computer Science • *summa cum laude* (GPA: 4.0/4.0)
Minor, Music • Flute performance certificate

Current Projects

Anonymous Atomic Locks, Re-evaluated. *With Giulio Malavolta, Pedro Moreno-Sanchez, and Sri Aravinda Krishnan Thyagarajan.* Cryptographic analysis of a payment channel hub (PCH) protocol.

Simulation Extractable Updatable SNARKs in the UC Model. *With Behzad Abdolmaleki, Daniel Slamanig, and Sebastian Ramacher.* First *universally composable* generic SE updatable zk-SNARKs; with planned proof-of-concept Rust implementation.

Research Experience

University of Maryland *2019-2021*

Research Assistant

Developing secure multiparty computation (MPC) protocols in novel threat models & deployment environments; studied bounds on query-pattern leakage attacks on encrypted databases.

University of South Carolina Mathematics Department *2018-2019*

Science Undergraduate Research Fellowship (SURF)

Investigated tightness of stochastic bounds on cycle graph entropy (poster T2); released an open-source package with cycle graph utilities.

GitHub: nglaeser/graph_cyclone *(Python)* • PyPI: graph-cyclone

Fermi National Accelerator Laboratory, Particle Astrophysics *summer 2018*

Grace Hopper Computing Intern

Improved efficiency of the Dark Energy Survey's image processing pipeline for optical counterparts of gravitational wave events from average 5-8 hrs to 30 min (10-16x speedup). Published in papers J1 & J2.

GitHub: SSantosLab/gw_workflow *(Python, Bash)*

Temple University Computer Science Department *summer 2016*

NSF Research Experience for Undergraduates (REU)

Implemented an access-control security application for the database-defined software-defined network (SDN) controller Ravel. Work presented in C1 & T1.

GitHub: ravel-net/REU-access-control *(Python, PostgreSQL)* • Web: ravel-net.org/

Awards

NSF Graduate Research Fellowship, *National Science Foundation (NSF)* *2019-2024*

Dean's Fellowship, *UMD Computer Science Department* *2019*

Phi Beta Kappa Honor Society *2019*

Oldest and most prestigious academic honor society in the U.S.

Computational Science Fellowship (Math & Computing track), *Dept of Energy* *2019, declined*

Goldwater Scholarship (Honorable Mention) *2018*

Selected Publications

Conference Papers

C1. N. Glaeser and A. Wang. (2016). Access control for a database-defined network, *Proceedings of IEEE 37th Sarnoff Symposium*. http://dx.doi.org/10.1109/SARNOF.2016.7846728.

Journal Papers

J2. K. Herner et al. (2020). The updated DESGW processing pipeline for the third LIGO/VIRGO observing run. *EPJ Web Conf.*, 245, 01008. https://doi.org/10.1051/epjconf/202024501008.

J1. K. Herner et al. (2020). Optical follow-up of gravitational wave triggers with DECam during the first two LIGO/VIRGO observing runs. *Astronomy & Computing*, 33, 100425. https://doi.org/10.1016/j.ascom.2020.100425.

Other

O1. N. Glaeser. (2021). Cryptographic secret sharing packet, *UMD Girls Talk Math summer camp*. https://github.com/nglaeser/gtm2021/tree/main/packet.

In Preparation

P1. R. De Viti, B. Dinis, N. Glaeser, et al. (2021). CoVault: Secure High-Stakes Analytics. Under revision.

Service

External Reviewer

PETS 2022.1, PKC 2022

Organizer

UMD CS GradCo Peer Mentoring Program (inaugural year) *fall 2021*

UMD Cryptography Reading Group *fall 2020-spring 2021*

Mentor

UMD CS GradCo Peer Mentoring Program *fall 2021*

UMD Iribe Initiative for Inclusion & Diversity in Computing (I4C) *fall 2020*

Selected Talks & Posters

T3. Mathematically Sharing Secrets. (2021). Invited talk, *UMD Girls Talk Math Spring Event*, Virtual.

T2. Improving bounds on entropy of odd cycle graphs. (2019). (work with Joshua Cooper.) Poster, *UofSC Discovery Day*, Columbia, SC.

T1. Access control for a database-defined network. (2016). (work with Anduo Wang.) Poster, *IEEE Sarnoff Symposium*, Newark, NJ.
*3rd place Poster Award

Technical Skills

Strong: *Python • LaTeX • Linux/UNIX • HTML/CSS/Javascript*
Average: *Bash • C++*
Beginner: *Rust*

Languages

Native proficiency: English, German, Italian
Conversational proficiency: French, American Sign Language (ASL)