

NATALIE POPESCU npopescu at cs d0t princeton d0t edu

EDUCATION

Master's & PhD: PRINCETON UNIVERSITY September 2019 – now
Computer Science

Bachelor's: UNIVERSITY OF CALIFORNIA SAN DIEGO September 2013 – June 2018
Major: Molecular Biology
Minor: Computer Science

PAPERS

OOPSLA 2021 [Safer at Any Speed: Automatic Context-Aware Safety Enhancement for Rust](#)
POPL 2019 [CT-Wasm: Type-driven Secure Cryptography for the Web Ecosystem](#)

RESEARCH

PhD Student: PRINCETON UNIVERSITY September 2019 – now
Working with Amit Levy to build safer and more extensible systems. In one project, I led efforts to measure the overhead of bounds checking in Rust, ultimately showing that while overheads are often small, they are not consistent across all end-user contexts. We built a tool that, in an end-user context, helps software developers reintroduce the maximum number of bounds checks within a performance overhead threshold. In another project, we develop a system that enforces end-to-end encryption in cloud-based applications.

Researcher: UNIVERSITY OF CALIFORNIA SAN DIEGO April 2018 – June 2019
Contributed to Deian Stefan's research in programming language-based security. In one project, I evaluated the runtime performance of Constant-Time WebAssembly (CT-WASM) by porting and benchmarking low-level cryptographic primitives. In another project, I built security policies for sandboxing package installations for language package managers.

SCHOLARSHIPS

2021-2022 Microsoft Research PhD Fellow

TEACHING

COS 316 TA: PRINCETON UNIVERSITY September 2020 – December 2020
Attended lectures and weekly staff meetings, held weekly precept discussion sessions, held office hours, answered questions on the online Ed discussion forum, and handled schedule changes and postings for the office hours of all other teaching assistants and professors.

CSE 11 & 30 Tutor: UNIVERSITY OF CALIFORNIA SAN DIEGO September 2017 – June 2018
Attended lectures and weekly staff meetings, held lab hours for students, answered questions on the online

Piazza discussion forum, held discussion sections, proctored exams, and graded students programming assignments, quizzes, and exams.

INTERNSHIPS

Engineering Intern: LYRA HEALTH, INC.

June 2017 – September 2017

Learned how to manage a large code base and completed small projects related to Lyra's Web Application for facilitating easier access to therapists. Created web pages using Storybook, JavaScript, and React and Redux frameworks.