Benjamin Sepanski

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Skills

Programming Languages	Rust, Python, Solidity, C++/CUDA, TypeScript, Java, Go, R
Software & Tools	Git, Unix shell, LaTeX, ggplot/matplotlib, Github Actions CI/CD, zero-knowledge DSLs (circom, halo2, arkworks, o1js, Risc0, gnark)
	(some experience with) HSMs, Maven, CMake, Nix, Docker

Education

University of Texas at Austin   *August 2020 – December 2022*
M.S. in Computer Science, *GPA*: 4.0
Studied and researched programming languages in the UToPiA group
Advisor: Dr. Isil Dillig

Baylor University   *August 2016 – May 2020*
B.S. in Mathematics, Minor in Computer Science, *GPA*: 4.0
45 hours of graduate coursework in mathematics, computer science, and statistics
Advisor: Dr. Robert Kirby

Work Experience

Chief Security Officer   *March 2024 – Present*
VP of Auditing   *July 2023 – March 2024*
Research Scientist   *January 2023 – July 2023*
Veridise

- Performed over 30 manual source code security reviews for clients, finding dozens of high and critical bugs in a variety of emerging technologies (zero-knowledge cryptography, smart contracts, off-chain infrastructure, and hardware security modules).
- Hired and managed an auditing department, growing a team of one to a team of seven.
- Created project timelines and quotes for over 400 potential projects, tracking the setup and delivery of over 75 projects.
- Met with potential clients to pitch services and understand project requirements.

- Regularly met with the executive team to determine company strategy, prepare go-to-market plans for security software releases, and select emerging technologies to target for potential audit clients.

Research Scientist   *May 2021 – August 2021*
Lawrence Berkeley National Labs
- Extended C++/CUDA high-performance data layout Bricks library to reduce metadata usage, support complex types, and compute FFTs using NVIDIA's cuFFT library.

Undergraduate Research Assistant   *January 2019 – August 2020*
Baylor University
- Applied nonlocal boundary integral equations to foster finite element methods on wave equations in an unbounded domain.
- Developed, tested, and integrated research into Python library meshmode.

Director's Summer Program Participant   *May 2018 – August 2018*
Director's Program at the National Security Agency
- Received Top Secret // Sensitive Compartmented Information clearance.
- Applied language modeling and n-gram techniques to a high-priority classified project.

Research Assistant   *May 2017 – August 2017*
Research Experience for Undergraduates at San Diego State University

Publications

Synthesizing fine-grained synchronization protocols for implicit monitors (with Dr. Kostas Ferles, Rahul Krishnan, Dr. James Bornholt, and Dr. Isil Dillig) Proc. ACM Program Lang. 6, OOPSLA1, 2022

"Maximizing Performance Through Memory Hierarchy-Driven Data Layout Transformations," (with Dr. T. Zhao, Dr. H. Johansen and Dr. S. Williams) in *2022 IEEE/ACM Workshop on Memory Centric High Performance Computing (MCHPC), Dallas, TX, USA, 2022*

Finite Elements for Helmholtz equations with a nonlocal boundary condition (with Dr. Robert Kirby and Dr. Andreas Klockner) SIAM Journal on Scientific Computing, 2021

Augmented Hilbert series of numerical semigroups (with Christopher O'Neill, Jeske Glenn, and Vadim Ponomarenko) Integers 19 (June 3, 2019), #A32

Selected Awards and Honors

2020 Department of Energy Computational Science Graduate Fellow
2019 Goldwater Scholar