

# Benjamin Sepanski

Houston, TX | ben.sepanski@gmail.com | <https://bensepanski.github.io>

## Skills

---

### Programming Languages

Rust, Python, Solidity, EVM, C++/CUDA, TypeScript, Java, Go  
(some experience with) x86\_64 Assembly, R

### Libraries & DSLs

circom, halo2, o1js, gnark, risc0, corset (Linea)  
(some experience with) arkworks, NEAR, AWS Nitro, LLVM, DynamoDB

### Software & Tools

Git, Unix shell, LaTeX, GitHub Actions CI/CD, Semgrep, poetry/pip, foundry, hardhat  
(some experience with) afl++, 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 35 manual source code security reviews for clients, finding dozens of high/critical bugs in a variety of emerging technologies.
- Set up and ran internal and third-party static analyzers and fuzzers for multiple clients during code reviews.
- Reviewed cryptographic implementations of distributed signing schemes (FROST), elliptic curve operations, ECDSA, Keccak, sponge-based encryption, and recursive ZK-verifiers.

- Reviewed ERC 4626 Vaults, NFT collections, over-collateralized lending protocols, AMMs, orderbooks, token implementations, zkEVMs, and execution layers across a variety of ecosystems including EVM chains, Mina, Linea, Monero, and NEAR.
- Developed detectors for a static analyzer built on LLVM.
- 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, and developing internal Python libraries for quoting and audit report generation.
- Set revenue goals, determined pricing strategy, and managed the hiring budget for the auditing department. Managed internal revenue allocation for the company.
- Interacted with potential clients to explain services and collect project requirements.
- Regularly met with the executive team to determine company strategy, prepare go-to-market plans for security software releases, and select target technologies.

### **Research Scientist**

*May 2021 – August 2021*

*Lawrence Berkeley National Laboratory*

- DOE CSGF Practicum supervised by Dr. Samuel Williams and Dr. Hans Johansen.
- Extended C++/CUDA high-performance data layout Bricks library to reduce metadata usage, support complex types, and compute FFTs using NVIDIA's cuFFT library.
- Used roofline analysis and the Bricks layout to optimize high-dimensional stencil computations from the GENE code—a phase-space SciDAC Fusion Code.

### **Undergraduate Research Assistant**

*January 2019 – August 2020*

*Baylor University*

- Applied nonlocal boundary integral equations to support finite element methods on wave equations in an unbounded domain with Dr. Robert Kirby and Dr. Andreas Klockner.
- 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 with Agency special background investigation and full scope polygraph examination.
- Submitted detailed findings in an internal refereed technical paper.
- Designed, implemented, and tested graph optimization algorithms.
- Applied and extended 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*

- Researched Numerical Semigroups 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

Recipient of Mathematical Association of America (MAA)'s Student Travel Grant to the 2018 Joint Mathematics Meetings

2018 & 2019 Outstanding Math Student at the J. Harry and Anna Jeanes Academic Convocation

Recipient of Baylor Mathematics Scholarships

Jerry Johnson Scholarship (2018 & 2019)

KL & Vivian Carter Scholarship (2017)

Schultz-Werba Math Scholarship (2017)

Gene & Ruth B Royer Scholarship (2018 & 2019)

Howard / Anita Rolf Scholarship (2017)

Carlile Engineering Scholarship (2016)

Received President's Gold Scholarship at Baylor University

National Merit Scholar (2016)