Bree Spektor

Computer Engineer · Software Developer

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Education

University of Florida *Gainesville, Florida, USA*

B.S. in Computer Engineering *August 2017 - May 2022*

- GPA: **3.90/4.00**
- Relevant Coursework: Computer Organization, Software Engineering, Digital Logic, Penetration Testing, Performant Python, Programming Language Concepts, Operating Systems, Data Structures and Algorithms, Microprocessor Applications, Digital Design, Databases, Reconfigurable Computing, Real-time DSP Applications

Experience

Senior Associate Software Engineer *Richmond, Virginia, USA*

Capital One *August 2022 - Present*

- Utilized AWS Lambda for automating daily delta imports of tables as well as automating report generation, saving engineer time.
- Implemented changes to core applications for one-click failover and DB replica support, increasing reliability.
- Led tech stack migration of multiple applications to modern NodeJS and Java/Spring framework, improving security posture.
- Improved user experience, efficiency, and safety by implementing crucial business and security features such as SSO.

Software Engineering Intern *Richmond, Virginia, USA*

Capital One *June 2021 - August 2021*

- Implemented an agent management dashboard to recover failing agents on production cloud instances.
- Developed a GraphQL backend in Go to communicate with the agent API.
- Utilized Docker and Jenkins to create CI/CD pipeline to validate incoming PRs and build new images.
- Used Terraform to set up AWS configurations for deploying EC2 instances with an ALB.

Undergraduate Research Assistant *Gainesville, Florida, USA*

SHREC @ UF *February 2021 - December 2021*

- Implemented a pipelined 4-parallel FFT in VHDL.
- Utilized Python to generate and validate test data for VHDL testbench.
- Wrote automated VHDL testbenches to test for component correctness.
- Benchmarked CUDA vs DPC++ (OneAPI) performance for GPU compute.

Software Engineering Intern *Weston, Florida, USA*

Ultimate Kronos Group *January 2021 - April 2021*

- Implemented various features for filtering Kafka messages using Java.
- Refactored a CLI in Go to add crucial new functionality.
- Dockerized a NodeJS application and automated image building for deployment to the cloud.

Undergraduate Teaching Assistant *Gainesville, Florida, USA*

UF CISE & ECE *January 2019 - May 2022*

- Former teaching assistant for Computer Organization, Data Structures, and Digital Logic.
- Former lead teaching assistant for Operating Systems.
- Held office hours, taught lab sections, created guides, automated assignment grading, led discussion sections.

Projects

Crypto Ticker Bot

Personal Project *2021*

- Wrote a Discord bot in Rust to display cryptocurrency price and trend.
- Used Rust with multithreaded Tokio to run multiple bot instances concurrently.
- Utilized shared memory across threads to minimize calls to the crypto price API.

myGNV Resource Finder

Open Source Project *2019 - 2020*

- Developed a resource finder for the City of Gainesville.
- Used Javascript + React + Webpack for the frontend, and Typescript + MongoDB + NestJS for the backend.

Pascal Interpreter

Class Project *2020*

- Implemented a Pascal language parser and interpreter using Java and ANTLR.
- Interpreter capable of recursion, proper scoping, and imports.

MIPS-like Microprocessor

Class Project *2020*

- Designed and implemented a MIPS-like microprocessor in VHDL.
- Gained experience in testbenches, simulations, and debugging.

Skills

Computer Lang.	C/C++, Typescript/Javascript, Python, Go, Rust, Kotlin, Java, VHDL, HTML, Bash
Frameworks	React, Express, NestJS, Qt, Flask, Spring Boot
Software	Docker, Jenkins, Quartus, Modelsim, Git, Linux, macOS, Windows