Kailani Chu

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Interests

My research interests are in utilizing programming language techniques such as type systems and runtime verification to build secure and performant systems. My past experiences include scalable systems programming (C/C++/Go/Rust), programming language analysis, and information retrieval.

Education

Northeastern University **Boston, MA**

College of Computer and Information Science September 2016 - May 2020

B.S. in Computer Science, Magna Cum Laude, Dean's List GPA: 3.8 / 4.0

Capstone Project: A compiler with type inference and GC in OCaml for AMD64

Skills

Languages Python, Java, Rust, Go, C++, C, Ruby, OCaml, JavaScript, SQL, KQL, Bash

Technologies Ruby on Rails, MySQL8, CosmosDB, Kafka, Airflow, Redis, GraphQL, Linux, Git Docker, Kubernetes, Redis, OpenAPI, Google Cloud Platform, Microsoft Azure

Industry Experience

GitHub **Remote**

Software Engineer on Code Search December 2024 - Present

- Improving GitHub's highly available, scalable code search engine for millions of developers on GitHub and powering semantic/vector search for Microsoft Copilot AI for millions more
- Assisted in productionizing embeddings code indexing infrastructure for LLMs, enabling free access to VSCode Copilot AI features

Software Engineer on Security Products February 2022 - December 2024

- Implemented support for Private Registries in Dependabot Alerts, allowing customers to automatically resolve and update vulnerabilities within packages from private package registries
- Released GitHub Private Vulnerability Reporting to facilitate safe and confidential vulnerability disclosure, helping publish nearly 500 security advisories in 12 months
- Spearheaded API and storage design for Vulnerability Reachability Analysis to identify critical exploitable vulnerabilities and improve supply chain security across repositories on GitHub
- Expanded GitHub Advisory Database coverage by adding new vulnerability sources and ecosystems

Google **Sunnyvale, CA**

Software Engineer on Google Payments August 2021 - February 2022

- Developed features to improve Google Pay balance payment flows, reducing user declines
- Built and improved APIs to enable instant, safe, and consistent checkout experiences

Industry Experience Continued

Google **Sunnyvale, CA**

Software Engineer on Cloud Platforms July 2020 - August 2021

- Designed and implemented a software platform to detect and log instantaneous datacenter anomalies, enabling SREs to better root-cause transient outages
- Served as software lead across multiple datacenter power hardware projects to improve efficiency and stability and reduce total cost of ownership
- Created new firmware verification and testing systems, reducing regressions in production
- Interfaced with external teams and vendors to create software solutions for custom datacenter hardware

Software Engineering Intern on Cloud Platforms May 2019 - August 2019

- Developed a Kythe source code indexer for SystemVerilog, enabling advanced code analysis for Google Code Search used by tens of thousands of engineers across Alphabet.
- Added support for advanced code insight features in Google internal IDEs
- Improved build and developer tooling to support Tensor Processing Unit (TPU) chip design efforts

Salsify **Boston, MA**

Software Engineer Co-op on Platform Foundations January 2019 - May 2019

- Designed and implemented standard error handling in the new customer-facing GraphQL Rails API, improving UX and developer productivity
- Completed implementation of multilingual support on the Salsify platform
- Assisted the design of complex product data modeling capabilities

Thermo Fisher Scientific **Boston, MA**

Software Engineer Co-op January 2018 - May 2018

- Designed, implemented, and released a low-cost distributed air quality monitoring software/hardware platform for use in China and developing countries
- Developed a custom Linux userspace I2C driver in C++11 to allow unified management and communication with dozens of connected devices
- Created a custom visual testing harness to automate UI regression detection for scientific instruments

Teaching Experience

Northeastern University **Boston, MA**

Head Teaching Assistant for Object Oriented Programming January 2020 - May 2020

Teaching Assistant for Computer Systems January 2020 - May 2020

Teaching Assistant for Introduction to Embedded Design September 2019 - December 2019