SHAOQI WANG

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EDUCATION

University of Washington, Paul G. Allen School
Master of Science in Computer Science GPA: 3.94/4.00 Jan. 2023 - Jun. 2024 (Expected)
Bachelor of Science in Computer Science GPA: 3.97/4.00 Sept. 2020 - Dec. 2022
Field of Study: Computer Security and Privacy & Programming Languages & Formal Verification
Honors: MAGNA CUM LAUDE; Dean's List (College of Art & Science) 2020–Now

RESEARCH EXPERIENCES

Studying the Security & Privacy Risks of Modified WhatsApp APKs Spring 2023 - Now
Supervisor: Tadayoshi Kohno, Franziska Roesner

- Conducted comprehensive research on the usage and features of modded WhatsApp applications, including popular versions like GBWhatsApp, highlighting their interoperability with the official app and additional features such as anti-delete and "Last seen" freezing.
- Use static analysis to assess risks like potential malware due to bypassing official app store security checks.
- Use dynamic analysis to check modded apps for suspicious behaviors like crypto-mining or information theft.

Szalinski+AU: A Tool for Synthesizing Structured CAD Models Winter 2023

- Improved Szalinski [Nandi 2020], a framework for synthesizing structured Constructive solid geometry programs with E-anti-unification, which allows us to synthesize more expressive structures for parameterization.
- Migrated Szalinski to use the latest `egg` [Willsey 2021] release, and implemented anti-unification, and integrated it with the rest of the pipeline.

Oxidizing xv6 with FerrOS Autumn 2022

- Developed FerrOS, a proof-of-concept operating system integrating Rust with the xv6 build system, demonstrating enhanced memory safety and security in kernel and user space programming.
- Achieved significant integration of Rust within xv6 kernel, successfully rewriting core system utilities and calls, bolstering system safety without compromising performance.
- Conducted security evaluations, demonstrating FerrOS's inherent protection against buffer overflow attacks due to Rust's compile-time memory safety guarantees.

TEACHING EXPERIENCES

University of Washington CS department, Seattle, Washington Jan. 2023 - Now
Teaching Assistant, CSE 484 Computer Security
University of Washington CS department, Seattle, Washington Sept. 2021 - Mar. 2022
Teaching Assistant, CSE 390Z Workshop for Foundations of Computing I

INDUSTRIAL EXPERIENCES

LinkedIn, New York, New York Jun. 2023 - Sept. 2023
Software Engineering Intern

- Built a real-time stream processing pipeline to help advertisers resolve issues with ads impression, reclaiming $11.8 million annual revenue.
- Collaborated with multiple cross-functional teams and contributed to end-to-end business logic for nearline processing, mid-tier, and backend components spanning across three distinct codebases.
- Utilized **Samza** and **Kafka** to support critical data streaming and messaging capability.

Amazon, Seattle, Washington Jan. 2023 - Mar. 2023
Software Engineering Intern under AWS DynamoDB

- Conducted comprehensive research on long tail latency under high system utilization.
- Developed an internal service log parser to handle large-sized service logs. Used **buffer stream reader** to efficiently read massive amounts of data and extracted key information.
- Integrated request router metrics into capacity test tool, improving understanding of latency dynamics for developers. Set up automatic testing pipelines and persisted results for server response time test.

LinkedIn, Sunnyvale, California Jun. 2022 - Sept. 2022
Software Engineering Intern

- Developed a production-grade and organization-wide CLI tool using **Python** to analyze revenue impact due to operational incidents.
- Improved runtime from over 10-20 minutes to less than 5 seconds, by transitioning from the manual procedure of visually inspecting metric and hand calculations to executing a streamlined CLI command.
- Presented the tool to more than 100 audiences including several corporate executives to promote adoption.

Bond Intelligence, Seattle, Washington July 2020 - Sept. 2020, June 2021 - Sept. 2021
Full-Stack Software Engineering Intern

- Built a data scraping pipeline for data analysis using **Beautiful Soup** and **Selenium**.
- Implemented interactive and mobile-friendly web user interface with JavaScript, HTML, and CSS.
- Maintained and improved openexa.com, a website serving municipalities, by implementing the capability to generate performance indicator reports and building a vital front page to attract users and promote products.

Microsoft, Redmond, Washington June 2019 - Aug. 2019
Software Engineering Intern

- Developed MicroPulse survey app at Microsoft Azure Cosine Team.
- Implemented CRUD capability for user response data using Microsoft **SQL** and **RESTful API**.
- Designed and implemented interactive user interface using **XAML** and **C#**.
- Communicated with beta users weekly to collect feature requests and UX feedback.