Shuo Li
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Education

University of Michigan Ann Arbor, MI
B.S.E Computer Science; GPA: 3.95 *Aug. 2021 – Apr. 2024*
Related Coursework: Data Structures & Algorithms, Databases, Compiler Construction, Machine Learning

Professional Experience

Engineering Summer Analyst - Goldman Sachs **Salt Lake City, UT**
Software Engineering Intern - HTML/CSS, React, TypeScript, WebSocket, Java, Spring, Flask *June 2023 - Aug. 2023*

- Lead "Client Credit Controls Dashboard" project, a credit tracking tool which visualizes daily usage trends and historical peak usage in user-selected time range, expediting decision-making by 30%
- Spearheaded front development using **React**, **Redux**, **WebSocket**, and **TypeScript** that processes 500,000+ data points of ∼1,000 clients daily, collaborating closely with stakeholders in 3 different departments
- Integrate the frontend with a backend constructed in **Java**, **Spring Boot**, and **Maven** seamlessly, and document the **CI/CD** pipeline, guaranteeing process reproducibility
- Pioneer **Agile Scrum** sessions and coordinate tasks through **Jira**, ensuring timely delivery of milestones

Software Engineer - Michigan CSE Lifelong Learning Lab, MeetScript Project **Ann Arbor, MI**
Software Engineer - Jinja, Python, Django, JavaScript, Redis, WebSocket *Apr. 2022 - Dec. 2022*

- Developed and maintained MeetScript, an online video meeting tool with real-time transcript and notes
- Implemented real-time transcription and note-taking features in **WebSocket** for a seamless user experience
- Redesigned **Django** models and serializers to reduce the response time by about 10 times
- Led deployment and conducted user behavior research with 202 participants and data analysis in **Python**

Instructional Aide in Intro to Computer Security - Michigan CSE **Ann Arbor, MI**
Teaching Assistant - Golang, Python, C, Computer Security *Aug. 2022 - Now*

- Worked in EECS 388 (Intro to Computer Security), a 400+ student class on the main computer science track
- Taught discussion sections to reinforce conceptual understanding and redesigned course projects

Projects

Operating System | *C++, Git, Linux, Bash*

- Designed and implemented OS modules, including **process scheduling**, **virtual memory**, and **file systems**
- Constructed a **thread library** optimized for multi-core CPUs syncing **mutexes** and **condition variables**
- Created a **memory pager** in **Clock algorithm** to improve memory management and minimize page faults
- Engineered a high-concurrency **network file server**, employing a multi-threaded **socket** programming approach and robust **lock** mechanisms for superior performance

PyRust Compiler | *Rust, x86 Assembly, Programming Language, Compiler Design*

- Developed a **Rust**-powered compiler for a Python-like language, enabling x86 assembly code generation
- Added features like **printing**, **arithmetic**, **recursion**, **closures**, **arrays**, and **anonymous functions**
- Enhanced compiler robustness through **strategic register allocation**, **tail recursion optimization**, **overflow error handling**, and **managing type checking**, **explicit type conversions**, and **variable scope management**

Programming Skills

Languages/Frameworks: Python, C++, Java, JavaScript, TypeScript, React, Django, Spring, Rust, R, Golang
Tools & Technologies: Git, WebSocket, Docker, Linux, Oracle, MySQL, MongoDB, Redis, AWS EC2
Knowledge: CI/CD, Cloud Computing, Object-Oriented Programming, Functional Programming, Agile Scrum

Publication

MeetScript: Designing Transcript-based Interactions to Support Active Participation in Group Video Meetings: Accepted to the Conference on Computer-Supported Cooperative Work and Social Computing (CSCW), 2023