Wayne (Shuai) Wang

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EDUCATION

Middlebury College   Middlebury, Vermont, USA
*Candidate for Bachelor of Arts with a **Major of Computer Science** and a **Minor in Political Science***   Est: Feb 2023
GPA: 3.89 | **Major GPA:** 3.95
Relevant Courses: Advanced Operating Systems, Systems Programming, Computer Architecture, Software Development, Mobile Development, Data Structures, Algorithms and Complexity, Artificial Intelligence, Programming Languages, Probability

SKILLS

Programming Languages: Java, C, JavaScript, Python, Ruby, Bash
Operating Systems: Linux (Arch, Debian), FreeBSD
Frameworks and Technologies: React, React Native, Next.js, Native Android, Git, SQLite, PostgreSQL
Languages: English (Fluent), Mandarin Chinese (Native)

EXPERIENCE

Econ Simulations   Middlebury, VT
Front-end Developer   Jun. 2022 – Aug. 2022

- Developed Econ Simulations(econsims.org), an interactive React website that simulates and visualizes statistical and economic concepts.
- Designed and implemented interactive simulation of economic and statistical concepts, including the Solow–Swan model, measurement errors, and hypothesis tests.
- Improved the responsiveness and simulation performance with worker thread architectures.
- Utilized HighCharts to implement data visualizations within modules. Migrated the codebase to TypeScript.

Research: On the Feasibility of Retrofitting Operating Systems with Generated Protocol Parsers   Middlebury, VT
Wayne Wang, Peter C. Johnson   June 2021 – May 2022

- Produced research paper accepted by IEEE peer-reviewed Workshop on Language-Theoretic Security (langsec.org/spw22/).
- Presented the project at the Eighth Workshop on LangSec at the IEEE CS Security & Privacy Workshops in May 2022.
- Performed manual and static analysis of in-kernel protocol stacks for IP/TCP and USB on Linux, FreeBSD, and illumos.
- Included manual control flow analysis. Analyzed and visualized the result.

MIMDB   Middlebury, VT
Full-stack Developer   Sep. 2021 – Jan. 2022

- Designed and developed MIMDB (mimdb.herokuapp.com), the Middlebury College film department movie database website.
- In charge of designing and implementing RESTful APIs and database for front-end retrieval, content submission, and user authentication, using Next.js and SQLite.
- Implemented front-end UI with animation using React and Framer Motion.
- Developed application components in an Agile environment under the Scrum methodology and practiced test-driven development.

Xiaomi Technology   Beijing, China
Android Development Engineer Internship   Jun. 2020 – Aug. 2020

- Developed the native Android client for the default browser application MiBrowser for Xiaomi devices using Java.
- Collaborated closely with UI/UX designers and product managers to deliver new features and bugfixes on major updates.
- Implemented defense mechanisms against malicious Drive-By downloads and DoS attacks.
- Debugged critical application issues such as ANRs, memory leaks, and concurrency issues.
- Optimized the app's adaption of Android's multi-window and pic-in-pic mode.

Teaching Assistant   Middlebury, VT
Data Structure and Computer Architecture Tutor   Sep. 2019 - Present

- Tutored for Middlebury College Computer Science courses CS201 Data Structure and CS202 Computer Architecture.
- Held office hours for post-class tutoring sessions. Assisted professors in instructing lab sessions.
- Helped students with topics including complexity, BST, graphs, and hash tables in data structure, and combinational logic, digital electronics, memory structure, assembly language, and basics of C and Unix systems in Computer Architecture.