

Boming Zhang

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SUMMARY OF QUALIFICATIONS

- Experienced software engineer, skilled in static code analysis, bug detection, and full-stack development.
- Active open-source contributor and innovative problem solver dedicated to delivering quality software solutions.
- Proficient in building software from scratch, with the ability to architect, develop, and deploy independently.

EDUCATION

University of Georgia (School of Computing) Aug. 2023 - Present
MSc in Computer Science Athens, GA

Shanghai Jiao Tong University (UM-SJTU Joint Institute, ABET accredited.) Sept. 2018 - Aug. 2022
BEng in Electrical and Computer Engineering (minor in Computer Science, GPA 4.0/4.0) Shanghai, China

- Relevant Coursework: Intro to OS (A+), Methods and Tools for Big Data (A+), Data Structures and Algo. (A)
- **2020-2021 Undergraduate Excellent Scholarship**
- **Honors Research Program in the Undergraduate Research Course**
- Outstanding Member of Technology Department (as deputy director) UM-SJTU Joint Institute Student Union

TECHNICAL SKILLS

Languages: Python3, Golang, (modern) C++, C (Linux), Shell, SQL, MQL, Typescript, L^AT_EX

Frameworks: FastAPI, SQLAlchemy, Go Gin, Go Fiber, GORM, Django, React.js, PyTest, NumPy

Developer Tools: Git, Docker, Podman, GitHub Actions, Drone.io, VSCode, Vim, Pre-commit

EXPERIENCE

Software Engineer (Intern to Full-Time) Feb. 2022 - Jul. 2022, Nov. 2022 - Jul. 2023
Naive Systems, advisor Xiao Jia, Kevin Sun Shanghai, China

- Take part in developing a static code analysis product to detect potential bugs and hazards in the customers' code. Implement checkers and test cases for many programming specifications, like CWE, google cpp, and MISRA C, based on **Clang Static Analyzer, LibASTMatchers, and Cppcheck**, using C, C++ and Golang.
- Participate in developing a VSCode extension to read results. Implement the i18n feature with Protobuf.
- File issues with detailed analysis on llvm project. Dig deep into the Clang Static Analyzer source code.

Research & Development Engineer Intern Jun. 2021 - Feb. 2022
Shanghai Zhimian Weiye Technology, advisor Prof. Mian Li, Dr. Ruixiang Zheng Shanghai, China

- Build Intell. IoT Firefighting System project. Design the architecture, and work as a **full-stack developer**.
- **Technical leader** of 2 Undergraduate Innovation Practice Programs. Both develop full-stack web applications.

Teaching Assistant (Intro to OS, Intro to Comp.) Sep. 2020 - Dec. 2020, Sep. 2021 - Dec. 2021
Shanghai Jiao Tong University, advisor Prof. Manuel Charlemagne Shanghai, China

- Host **exam review sessions** and **weekly lab sessions** for at most 100 students. Grade labs and homework.
- Maintain online judge test cases and multiple servers for up to 150 students as part of the FOCS student system.

PROJECTS

AList (Github 30.3k stars) | Golang, Go Gin, GORM, Solid.js Nov. 2022 - Present

- Contribute to the open source project, a file list/WebDAV program as the **3rd main contributor**.
- Implement and fix multiple storage drivers, analyze protocols and packets, and fix security vulnerabilities.
- Implement the search feature. Take an active part in the open-source community on GitHub and Telegram.

Intell. IoT Firefighting System | Python3, MongoDB, Docker, React.js, React Native Mar. 2021 - Feb. 2022

- Start from scratch, build a high perf. firefighting platform (Web + App) based on IoT data. Use an algorithm to detect potential hazards and report fire alarms with high accuracy in buildings to **save life and money**.
- Deploy the system on **the fire brigade of Shanghai Province**, connected with **over 7 million IoT devices**.

JOJ 2.0 | Python3, Golang, PostgreSQL, Redis, LakeFS, Docker, CGroupsV1, React.js Mar. 2021 - Aug. 2022

- Develop an online judge system from scratch for various courses. Provide stable, secure, fast, well-documented online judge service with various integrations for **over 1000 students in the institute**.
- Build the judger's sandbox with **namespace and containerization** for isolation and measurement.

FOCS student system & related tools | Python3, Golang, Node.js, Docker, Nginx, Certbot Nov. 2018 - Present

- Develop new features and tools. Maintain the online service and software, including online judge, self-service Git, and CI platform for **over 300 students from 10 courses each term** to build, test, and grade their codes.