Jingyi Xie

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EDUCATION

Aug 2019 – May 2021 **Duke University, Pratt School of Engineering**,
Electrical & Computer Engineering, Master of Science.
Relevant Courses: Engineering Robust Server Software; Software Engineering; Systems Program & Engineering; Computer System & Engineering; Algorithm; Programming, Data Structures and Algorithms in C++
Major GPA: 3.9/4.0. ECE Merit Scholarship

2015 – 2019 **Southeast University**,
Electronic and Information Engineering, Bachelor of Engineering.
Cumulative GPA: 3.9/4.0 (Top 1). Major GPA: 3.96/4.0 (Top 1).
Magna Cum Laude & First-Prize Scholarship (Top 2%) in 2016, 2017 and 2018.

SKILLS

Languages Java, C/C++, Python, SQL, Assembly

Utilities Django, Docker, JavaFX, Git, CI/CD, Emacs, Linux, Valgrind

TECHNICAL EXPERIENCE

Jun 2018 – Aug 2018 **Research and Development Intern**, SIEMENS.
- Developed a lab inventory management system using VBA. Created interface between scanner and software to support operations like register, lookup, borrow and return lab inventory.

Oct 2018 **Research Intern**, Chinese Academy of Sciences.
- Devised a smart home control system using MFC and C++ to accomplish the remote control and monitoring of LED lights, electric fans and servo drives.

SOFTWARE ENGINEERING PROJECTS

Apr - May 2020 **Mini UPS System(Python, Django, PostgreSQL, Docker, Protocol-Buffers)**, team work.
- Constructed a full-stack UPS website paired with world simulator and Amazon systems in Django framework.
- Developed the back-end server using Python and PostgreSQL. Built API to realize communications between microservices using protocol buffers. Designed an intuitive UI with Bootstrap to track users' packages.

Mar 2020 **HTTP Caching Proxy Server(C++, TCP Sockets, Concurrency)**, team work.
- Handled GET, POST, and CONNECT requests using daemon process and multi-thread.
- Cached responses according to the rules of expiration time and revalidation in RFC7234.

Feb - May 2020 **Risk Network Game(Java, JavaFX, Concurrency, JSON, CI/CD)**, team work.
- Built a multi-player game, using Java for back-end, JavaFX and MVC for UI, and JSON for communication.
- Players can make move/attack/upgrade/alliance orders, and chat with each other in a chatroom.

Feb 2020 **Mini Google Protocol Buffer (Java, JSON, Gradle)**, individual project.
- Developed a program that can read JSON files which specifies class names and fields, generate the Java class, serialization and deserialization source codes. Improved by handling objects with cycles in reference graph.

Jan 2020 **Ride Sharing Web-app (Python, Django, PostgreSQL, Docker)**, team work.
- Supported functionality like creating accounts, login/logout, driver registration, ride selection, ride requesting, ride status viewing and ride searching. Users can request, drive for, and join rides.

Jan 2020 **Malloc Library Implementation (C, Concurrency, Synchronization, TLS)**, individual project.
- Implemented "malloc" and "free" dynamic memory allocation functions from the C standard library, using sbrk system call and linked list. Improved run-time and fragmentation by merging and splitting data segments.

Nov 2019 **Mini Linux Command Shell (C++, Multi-process, OOD, Valgrind)**, individual project.
- Developed a command shell to change directory, set and export environment variables, redirection and pipe.
- Improved with argument parsing of backslash and quotation mark, and searching PATH for command name.