Kunyang Xie

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EDUCATION

University of Waterloo   Waterloo, ON
Master of Engineering in Software Engineering   *Sep. 2021 – Jun. 2023*

University of Electronic Science and Technology of China   Chengdu, Sichuan, China
Bachlor of Engineering in ECE   *Sep. 2017 – Jun 2021*

University of Glasgow   Glasgow, Scotland, UK
Bachlor of Engineering in ECE with First-Class Honours   *Sep. 2017 – Jun 2021*

EXPERIENCE

Software Engineer   Jan. 2023 – Aug. 2024
Perle Systems Limited   *Markham, ON*

- Developed a web manager for routers on **Debian Linux** with a Bootstrap-based frontend, C backend, and SQLite database, providing a user-friendly interface for configuring network settings and managing system operations.
- Led the development of a remote router control system, deployed on **AWS** with a **React** frontend and **SpringBoot** backend, serving over 1,000 active users.
- Designed and implemented a Python-based proxy system on routers, facilitating communication between the cloud and router for remote management, including transmitting HTML/CSS for real-time router status updates.
- Optimized CLI command execution in a cloud-based web manager by implementing multi-threading, achieving an 80% speed improvement.

Software Engineer   Mar. 2021 – May 2021
Tsinghua University - Sichuan Energy Internet Research Institute   *Chengdu, Sichuan, China*

- Collaborated on a student management system project using **React** and **SpringBoot**, optimizing **SQL** queries by analyzing performance and adding indexes to high-frequency tables, which reduced query execution time by approximately 15% in key modules.
- Contributed to deploying the application by integrating **Redis** caching for frequently accessed student records, reducing database load, and containerizing the system with **Docker** to ensure consistent environments across development and production.

PROJECTS

Turbo Wallet - Money Management App | GitHub   Sep. 2022 – Dec. 2022

- Led the back-end development to build a web server based on **Express** invoking **RESTful APIs** to respond the requests from the front-end, the project ranked top **3%** out of 100 submissions in the contest.

3D Printer Design   Jan. 2022 – Mar. 2022

- Built a Gantry-style 3D printer and optimized open-source **Marlin** firmware to meet design requirements, implementing **PID** controllers for temperature sensor feedback, which improved temperature precision and reduced material adhesion issues by **10%**.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, Go
Frameworks: SpringBoot, Node, Express, React, Vue, Augular, Flutter, Django, PyTorch
Developer Tools: Linux, Git, Docker, Nginx, MongoDB, AWS, Redis