Kunyang Xie

226-581-2915 | kyriexie@outlook.com | https://kyxie.github.io/en/

EDUCATION

University of Waterloo   Waterloo, ON
Master of Engineering in Software Engineering   *Sep. 2021 – Dec. 2022*

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 built on **Debian Linux**, featuring a Bootstrap-based frontend, a C-based backend, and an SQLite database, allowing users to generate CLI commands for network configuration in a user-friendly manner.
- 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.
- Implemented multi-threading to address the slow response of CLI commands in the cloud-based web manager. This solution resolved request blocking and enhanced inter-thread communication and synchronization, significantly improving command execution speed by **80%**.

Software Engineer   Mar. 2021 – May 2021
Tsinghua University - Sichuan Energy Internet Research Institute   *Chengdu, Sichuan, China*
- Built a Gantry-style 3D printer, used and optimized open-source **Marlin** firmware, adapting and configuring it to meet the specific requirements of the printer design.
- Implemented the temperature sensor feedback mechanisms using **PID** controllers, ensuring more precise temperature controlling, thereby leading to a **10%** decrease in the adhesion rate of modeling materials.

PROJECTS

Student Management App for Consultants | *SpringBoot, Vue.js, MySQL*   Jan. 2024 – Apr. 2024
- Architected and deployed a real-time Student Management App by containerizing the front-end (**Vue 3**) and back-end (**SpringBoot**) services using **Docker**, and orchestrating them on a **Kubernetes** cluster to ensure high availability, scalability, and efficient load balancing.

Turbo Wallet - Money Management App | *Node.js, Vue.js, MongoDB*   Jan. 2022 – Apr. 2022
- Led the back-end development to build a web server based on **Express.js** invoking **RESTful APIs** to respond the requests from the front-end, the project ranked top **3%** in the contest.
- Designed and implemented non-relational database **MongoDB** to manage the income and expenditure records of users.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, Go, Dart
Frameworks: SpringBoot, Node.js, Express.js, React, Vue, Flutter, Django, PyTorch
Developer Tools: Linux, Git, Docker, Kubernetes, Nginx, AWS, Redis, MongoDB, Kafka