Xinming Lu ❖ 吕心铭

xinming.lu@u.nus.edu ❖ (+65) 9030 7296 ❖ LinkedIn ❖ GitHub ❖ Personal Website Singapore

Introduction

I am a software engineer specialist fluent in multiple programming languages such as **Python, JavaScript, C++, Java, Ruby**. I am confident in taking on any projects regardless of the tech stack and complexity. I enjoy solving programming puzzles as a hobby!

I am fluent in both English and Mandarin, having grown up in Singapore while speaking Mandarin at home. I also have functional proficiency in Spanish, having lived in Santiago, Chile for a year.

WORK EXPERIENCE

Manglar Labs (Santiago, Chile) **Aug. 2025 – Jul. 2026**

Software/Firmware Engineer

- As part of NUS Overseas Colleges Program (NOC) August 2025 intake.
- Developed an automatic irrigation system by connecting an **ESP32** to a soil moisture sensor and water pump. Water pump switches on whenever the soil moisture dips below a certain threshold.
- Developed a user interface using **JavaScript** for a **Bluetooth** communication gateway for field operators to monitor and control devices onsite.
- Developed an IoT monitoring platform using **Grafana** and **MQTT** for all the company's IoT projects. Clients will use this platform to monitor points of interest in their field operations and control devices.
- Developed a physical tracking device using **Quectel EG91** and **LC67-L** modules for theft recovery. Wrote firmware in **C++** that controls when messages are sent over a cellular data network whenever the device leaves a zone. Firmware checks if it is in the zone by calculating the physical distance over **Bluetooth**.
- Developed firmware for a **Bluetooth** communication **gateway** that receives **Bluetooth** advertisement data from 12 devices and uploads them to the **central backend platform**.

NodeFlair **Feb. 2023 – Oct. 2023**

Software Engineer

- Worked on a web application using **ReactJS** and **Ruby on Rails** that saw **over 20,000 daily active users**.
- Built a three-page form component integrated with the backend to onboard the user after signing up.
- Worked on a resume editor component with rich text formatting and PDF parsing, created asynchronous components to keep the user busy while parsing uploaded resume.
- Debugged various bugs including a web scraper; more than **60,000 lines of code edited**.

Singapore Army **Apr. 2021 – Feb. 2023**

- Automated form filling using **Visual Basic Analysis** to reduce operational overhead and created a **telegram bot** using **Python** to track training records to improve safety (link).

EDUCATION

National University of Singapore (NUS) **Aug. 2023 – Present (Expected Grad. May 2027)**

Second Upper (Hons.), Bachelor of Science (Mathematics)

- Completed undergraduate research project on application of Monte Carlo Methods in finance.

PROJECTS

NUS Fintech Society (Software Development) **Jan. 2024 – Jan. 2025**

Technical Lead

- Project technical lead for society's Human Resource Management System written in **ViteJS** and **Django** (Frontend: link) (Backend: link).

Raffles Hall Developers **May 2024 – Apr. 2025**

Head – Software Engineer

- Overall head of hostel's software development interest group with 50 members.
- Headed weekly full stack web development training for new members.
- Liaised with hostel leaders and core team to maintain and develop new features for hostel's facilities booking app written in **ReactJS** and **Flask** (link).
- Managed **Dockerized** backend project deployed on **DigitalOcean** and set up **Continuous Integration/Continuous Development (CI/CD)** on frontend using **Vercel**.

Raffles Hall ComMotion(IT) **May 2024 – Apr. 2025**

Software Engineer

- Overall head of hostel's technical support team with 16 members.
- System administrator of hostel's iMacs and Network Attached Storage (NAS) for use by 700 hostel residents.
- Opened NAS to public network for residents to share media files outside of the NUS intranet and **increased connection speeds by up to 25x**.
- Lead a core team to maintain and develop hostel's CCA records application written in **PHP** (link).