

An-Chi Liu

SOFTWARE ENGINEER · SYSTEM SOFTWARE PROFESSION

Tokyo, Japan

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Education

National Yang Ming Chiao Tung University (NYCU)

M.S. in Computer Science and Engineering

- GPA: 4.11/4.3. Thesis: "Offworker: An Offloading Framework for Parallel Web Applications". The research focused on offloading parallel web applications to the cloud using web workers, resulting in a performance improvement of up to 5x on mobile devices. Published at **WISE'22** conference (Ranking A).
- Earned **Best Master's Thesis Award**, Institute of Information & Computing Machinery, Taiwan (2022). (only 13 winners)

Hsinchu, Taiwan

Sep. 2019 - May. 2022

Polytechnic University of Milan

M.S. Exchange Program in Computer Science and Engineering

Milan, Italy

Sep. 2021 - Feb. 2022

National Taiwan University (NTU)

B.S. in Bio-Industrial Mechatronics Engineering

Taipei, Taiwan

Sep. 2014 - Jun. 2019

Work Experience

Mujin, Inc

Backend System Software Engineer

Tokyo, Japan

Sep 2022 - Present

- Led the self-development of an innovative project called "Auto Network Detection," enabling the identification of devices connected to a LAN port even when their IP, port, and MAC addresses are unknown. Created a flexible and extensible C++ framework that allows users to detect new devices by simply adding new entries to the database without the need to modify or alter the program. Implemented various protocols in promiscuous mode using libpcap, such as Ethernet/IP, CIP, MDNS, GVCP, Telnet, Generic UDP/TCP, to ensure comprehensive device detection. Successfully utilized the framework to detect and identify a wide range of ethernet devices, including robots, cameras, grippers, sensors, and more, within the Mujin environment.
- Developed robot pendant GUI written in Qt/QML with Python
- Implemented new Web APIs in Golang to support frontend projects.
- Integrated new ZMQ APIs written in C++ to enhance the functionality of internal services within the robot system.
- Maintained and supported existing services written in Python and C++ to ensure their smooth operation and reliability.

National Yang Ming Chiao Tung University

Teaching Assistant

Hsinchu, Taiwan

2019 - 2021

- Parallel Programming (Spring 2021, Fall 2020). Won the **NYCU outstanding teaching assistant award** in 2021. Led a four-TA team to serve a 120-student course, including designing programming assignments, providing workplace environments, and interacting with students.
- Numerical Software Development (Spring 2021, Fall 2020, Spring 2020, Fall 2019). Reviewed and scored students' programming assignments on Github.

CloudMosa, Inc.

Software Engineering Intern

Taipei, Taiwan

Jul 2018 - Sep 2018

- Developed the module that enables users to download files directly to Dropbox on Puffin browser, including a Python backend to connect cloud services APIs and modifications for the core of Puffin browser (a remote browser engine).
- Developed parts of frontend GUI (with GTK) for the Linux version of Puffin browser.

Projects

Open-Source Projects

- **WxKitty**: Owned a Line Chatobot for Taiwan weather checking, which has **6000 users** and gets more than **100 stars**. Providing information on weather, forecast, typhoon, earthquake, etc.
- **Vocabulary Titan**: Owned a Line Chatobot integrated different online dictionaries for English vocabulary looking up with **8000 users**, which shorten the searching time of switching different dictionaries when preparing for English exams like TOEFL or GRE.
- **node-color-log**: Owned a lightweight JavaScript logger with **10k/month** downloads, which provides an alternative solution to existing mature counterparts which are usually huge.
- **Servo Browser**: Contributed to Mozilla's new web browser engine written in Rust (20k stars). Contributed about **50 commits**, including browser core functionality (followed web standard SPEC) and web tests.

Skills

Programming JavaScript, C/C++, Python, Node.js, Golang, Rust, PHP, Java, C, SQL#

Interests web technology, web browser, system software, parallel programming, heterogeneous computing

Frameworks/Tools

Android, Angular, AWS, CMake, Chatbot, CI/CD, Debuggers, Express, Flask, GDB, Git, Github, HTML5, jQuery, Make, QML, Qt, REST API, Unity, Wireshark, ZMQ

Languages Mandarin Chinese (Native), English (Business)