Hau-En Ke (Howard Ke)

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Education

University of California, Berkeley

Master of Engineering - Electrical Engineering and Computer Science

National Chiao Tung University

Bachelor of Science - Electronic Engineering, GPA 3.85/4.0

Experience

Synology, Cloud Service Team

Product Developer

• Wrote Ansible playbooks to orchestrate upgrading the versions of Kubernetes, Ubuntu kernel, and relevant applications on 7 clusters while ensuring zero downtime for the 60k global users of <u>Synology C2</u>.

- Created a Helm Chart to deploy TopoLVM in Kubernetes to provide C2 services with access to fast local persistent volumes on SSDs.
- · Deployed Blackbox exporter in Kubernetes and setup alerts in Prometheus for down services and network vulnerabilities.
- Built VM management system (Python, Shell) leveraging REST APIs to automate the process of deploying VM clusters, shortening a 2-hour process to 10 minutes, saving 100 man-hours annually.

Microsoft, IoT Innovation Center

Research Development Intern (24hrs/week)

- Built IoT systems by connecting sensors, PLCs, and gateways to Azure to illustrate how it could improve manufacturing efficiency.
- Created proof of concepts (Python, Shell, C#, Java) tailored to the infrastructure of each client and demonstrated how to simplify their workflows with Azure (IoT Hub, Data Lake, Storage, Function).
- Architected a data flow which ingests logs (10k+ lines per day), stores the status on Azure SQL Server, detects any abnormalities, and presents them with PowerBI. A manual, hour long process is thus transformed to be automatic and proactive.

Academia Sinica, Network Research Laboratory

Research Assistant

- Implemented a APRS (Automatic Packet Reporting System) communication module with Arduino (C++) to enable peer to peer data transfer based on amateur radio with a range up to several Kilometers.
- Integrated the APRS module with PM2.5 sensors on Raspberry Pi (Python) to transmit air quality data, expanding the coverage of the <u>Airbox sensor network</u> by 10x and providing frequent PM2.5 data of remote areas.

National Chiao Tung University

Web Developer

• Maintained and updated the backend (PHP, MySQL, Debian) and frontend (HTML, jQuery) of the graduate school online registration system to provide a convenient portal for 2.5k applicants per year and suit the demands of the professors for grading the candidates.

Pixnet Hackathon 1st place (out of 30)

Programmer (Team of 5)

- Built a Public transportation voice assistant based on the Google AIY Voice Kit. This assistant could be placed at bus stops to provide the best route and estimated arrival time of the bus to travelers.
- Coordinated the development of different components of the project, then integrated the hardware and software modules with JavaScript and WebSocket.

Skills

Languages	Python, C++, JavaScript, Go, Shell, SQL
Cloud	Kubernetes, Helm, Docker, Ansible, Prometheus, Azure (VM, Function, IoT, SQL, Data Lake, Storage), AWS (EC2)
Frameworks	NodeJS, Express.js, jQuery, Flask, Gin

July 2018 - June 2020

September 2017 - June 2019

Taipei, Taiwan

Taipei, Taiwan

August 2018

Hsinchu, Taiwan

July 2020 - June 2021 New Taipei City, Taiwan

Berkeley, CA

August 2021 - May 2022

Hsinchu, Taiwan

September 2016 – June 2020

Taipei, Taiwan

July 2019 - June 2020