

Ian Ku

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PROFESSIONAL SUMMARY

Passionate software engineer with 2+ years of experience in the software and manufacturing sectors, including hands-on work in a fast-paced startup environment. Skilled in cloud services and full-stack development, with a proven ability to take ownership of projects and work independently. Seeking opportunities to achieve excellence in a hybrid, remote, or onsite Software Engineering role.

SKILLS & CERTIFICATIONS

- ❖ **Certifications:** AWS Certified Cloud Practitioner
- ❖ **Programming Languages:** Python, JavaScript, TypeScript, C++, C, C#, Java, SQL, R, MATLAB, Swift, HTML/CSS
- ❖ **Frameworks:** React.js, Vue.js, Next.js, Node.js, Electron.js, Flask, FastAPI, GraphQL, R Shiny, ASP.NET
- ❖ **Cloud & DevOps:** AWS (API Gateway, Lambda, CDK, CloudFormation, CloudFront, Amplify, EC2, Eventbridge, S3, DynamoDB, RDS, SQS, IoT), Docker, Linux, Ansible, Azure DevOps, Apache2, Hyper-V, MQTT, Git, GitHub Actions
- ❖ **Database:** PostgreSQL, MySQL, Microsoft SQL Server, NoSQL
- ❖ **Hardware & Embedded:** ESP-IDF, FreeRTOS, I2C, UART, Cadence, Verilog, VHDL, LTSPICE
- ❖ **Languages:** Fluent in Mandarin and English; Advanced in Malay and Cantonese

WORK EXPERIENCE

Ulendo Technologies

Ann Arbor, Michigan

Software Engineer

April 2024 -- Jun 2025

- Independently developed a dashboard application for managing IoT devices using **React.js**, **JavaScript**, and **AWS Amplify**.
- Built a standalone desktop app and algorithm to optimize laser-based 3D printing paths using **Python (OpenCV, NumPy, SciPy, Eel)**, **JavaScript**, **HTML/CSS**, and **Electron.js**; included application authentication via **OAuth** and hardware keys.
- Engineered full automation: deployed updates with **GitHub Actions**, signed executables with **Microsoft Azure**, delivered binaries via **Amazon CloudFront** for low-latency installs, and used **AWS EventBridge**, **DynamoDB**, and **SES** to automate license generation and email delivery.
- Developed ESP firmware in **C++** using **ESP-IDF** with **FreeRTOS**, collecting real-time data via **UART** and **I2C**.
- Architected a reliable cloud IoT pipeline with **AWS IoT Core**, **SQS**, **S3**, and **Lambda** for device messaging and data handling.
- Developed high-availability, fault-tolerant **RESTful APIs** in **Python** using **AWS CDK(Lambda, API Gateway)**.
- Designed secure, scalable **NoSQL** data models and storage solutions with **GraphQL**, **Amazon S3**, and **DynamoDB**.

UCI MIND (UC Irvine Institute for Memory Impairments and Neurological Disorders)

Irvine, California

Software Programmer

November 2022 -- March 2024

- Developed a **Dockerized** patient statistics web application with **Vue.js**, **JavaScript**, **Git**, and **Python Flask** backend.
- Independently built a tissue repository web application using **R** in **R Shiny** and **Git** with our Alzheimer's **Redcap** database.
- Developed a full-stack C2C video survey web application in **Bootstrap 5**, **JavaScript**, and **Python** using **FastAPI** and **Flask**.
- Implemented **Apache2** load balancing, **Hyper-V** virtualization, and automated maintenance using **Ansible**.

Ansys, Inc

Remote, USA

Software Developer - Meshing Intern

June 2023 -- September 2023

- Independently implemented a 3D mesh solution for a PCB model provided by Apple using **Python** and Ansys Mechanical API.
- Developed GUI features in Ansys Mechanical utilizing **C++**, while adeptly managing version control via **Git** and **Azure Ops**.
- Optimized existing features and scripts for new functionalities in **C#** and **XML** within the Ansys Mechanical framework.
- Managed build dependencies and sequencing for established projects, ensuring efficient development workflows.

Kheradvar Research Group (KLAB)

Irvine, California

Full Stack Developer Researcher

July 2022 -- March 2023

- Developed frontend features for our Cardiac MRI Segmentation and Analysis app (pysegapp.com) in **TypeScript** using **Vue.js**.
- Engineered 2D and 3D MRI image segmentation and visualization features using **OpenCV**, **PyVista**, **AWS S3**, and **Python**.
- Leveraged and built APIs to provide end-to-end functionalities using **FastAPI**; Version control using **Git & Alembic**.
- Implemented scalable background processing pipelines with **Celery** to parallelize geometry computation frameworks.

N2N Connect Berhad

Kuala Lumpur, Malaysia

Software Engineering Intern

August 2020 -- October 2020

- Participated in developing portfolio management web applications using **C#**, **ASP.NET Core**, and **Entity Framework**.
- Built a new in-production market data database using **PostgreSQL** and **bash** scripting, deployed using **Docker**.
- Wrote and iterated **bash** scripts to automate FTP data retrieval/upload process to populate the new database.

EDUCATION

University of California, Irvine (UCI)

Irvine, California

B.S in Computer Engineering | GPA: 3.61

September 2021 -- December 2023

De Anza College

Cupertino, California

A.S in Computer Science | GPA: 3.59

January 2019 -- June 2021