Woody Ho

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Education

University of Illinois Urbana-Champaign *Dec 2024*

Master of Engineering in Electrical and Computer Engineering

National Cheng Kung University, Tainan Taiwan *Jun 2022*

Bachelor of Science in Aeronautics and Astronautics Engineering

Top Honor Student and Valedictorian, National Science Council Research Scholarship (Project Researcher)

Relevant Coursework: Communication Networks, Distributed Systems, Algorithm, Artificial Intelligence

Skills

Programming Languages: **Python (Flask)**, **C/C++(5y)**, **Java(Spring MVC)**, Go, JavaScript (Next.js)
Tools: **Docker**, **Kubernetes**, Git, Linux, Jira, Bash Script, MySQL, MongoDB
Cloud Technologies: AWS (EC2, S3), Firebase
Others: TCP/IP, UDP/IP, CUDA, Numpy, Pandas, Scikit-learn, PyTorch

Experience

Cisco *San Jose, CA*

Software Engineer Intern Jun 2024 - Aug 2024

- Developed backend**(Java)** of a 5G-enabled SIM migration tool, automating 15M IoT record transfers
- Built and deployed a full-stack web platform **(ExtJS, Java)** for IoT device management
- Enhanced code quality with 98% coverage through unit testing and **CI/CD** pipelines via **SonarQube**

Silicon Labs *Hsinchu, Taiwan*

Software Engineer Intern Jul 2022 - Sept 2022

- Developed a Python/C platform with a PyQt UI using **OOP** principles and the **MVC architecture** to translate IC testing code into wafer testing code, reducing costs by 10% through malfunction detection
- Developed a **Python desktop application** for automated die mapping, reducing testing time by 10%

National Cheng Kung University Department of Mechanical Engineering *Tainan, Taiwan*

Undergraduate Research Assistant at System Dynamics Laboratory Sep 2020 - Jun 2022

- Implemented a communication module using **MQTT** to connect AGVs with IoT infrastructure
- Utilized **TCP sockets** to send movement commands for AGV control, creating a seamless communication interface
- Modularized line-tracking and object-tracking systems using **OpenCV** and **LabVIEW**, resulting in a 5% improvement

Projects

Video Recommendation and Streaming System *Sep 2024*

Recommendation System, Kafka, FAISS, Flask, SQLite3

- Integrated **Kafka** for real-time data streaming, enabling seamless communication between multiple clients
- Developed a **Two-Tower model** and leveraged **FAISS** for fast nearest-neighbor search
- Utilized LLMs, including YOLOv11, and refactored the Space-Time Transformer for extracting video features
- Built backend with **Flask**, **SQLite3**, exposing RESTful APIs for handling requests from the iOS camera client

Spy Cam Detector Via RSSI *May 2024*

TCP/IP, WiFi, Kalman Filter, Raspberry Pi

- Captured **RSSI** values from spy cameras using **Sniffy Syncsniffer** and **MAC address**
- Implemented **Kalman Filter** and **double integration** for accurate camera localization
- Built a **TCP/IP** protocol to send data between Raspberry Pi devices

UDP-based TCP Protocol Implementation *Dec 2023*

C/C++, TCP, UDP

- Created a **TCP-like protocol** using **UDP** with 5% packet loss
- Implemented **slow start**, **congestion avoidance**, and **fast recovery** for reliable transmission
- Optimized protocol performance with feedback loops and retransmission strategies