

# Fucheng Hsieh

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## EXPERIENCE

### IBM

San Jose, CA

Software Engineer Intern | React, TypeScript, Unit Test, DevOps

Jun. 2022 – Sept. 2022

- **React Development:** Built two React components for Watson Discovery Annotation tool that let users label text for performing NLP analysis. Contributed over **700** lines of code
- **Unit Test:** Increased over **50%** unit test coverage for multiple React components by incorporating Enzyme and Cypress scripts with a combination of GitHub CI/CD pipeline
- **DevOps:** Teamed with four engineers, prioritized breakdown tasks, and conducted **Agile development** in the daily standup meeting to solve customers' issues and implement new features

### NEMS Lab, National Chiao Tung University

Hsinchu, Taiwan

Research Assistant | C++, Edge Computing, 4G/5G, IoT

Aug. 2020 – Aug. 2021

- **MEC:** Refactored network dispatcher and packet analyzer of MEC in 4G Networks, reduced execution time by **25%**
- **IoT:** Performed experiments to discover vulnerabilities in Mobile-IoT devices. Paper accepted by **ACM MobiCom'21**
- **Research Work:** Organized and drafted research paper on enabling Prioritized Traffic Shaping in MEC. Paper accepted by **IEEE CCNC'22**
- **Dual-uCPE Mesh System:** Designed and implemented an All-in-One business system with IP Camera, POS, and Mesh Wi-Fi. Virtualized Mesh controller with **Docker** and deployed on a **dual-uCPE** system

### Trend Micro

Taipei, Taiwan

Software Engineer Intern | Python, LDAP, QA, Crawler, Shell

Summer 2017 & 2018

- **QA Automation Tool:** Designed and developed a **QA automation tool** to ensure product installation procedure follows the design guidelines and export analysis automatically
- **LDAP Sync System:** Programmed IT automated tool to synchronize **LDAP user permissions** from employee database whenever an organizational change is detected. Deployed to IT system and executed periodically
- **Python Query Tool:** Built Query Tool for developers to check the standard procedures whenever they detect Third-party security software. Reduced search time by **70%**

## EDUCATION

### University of California, Irvine

Irvine, CA

M.S. in Computer Science

Sept. 2021 – Dec. 2022 (Expected)

### National Chiao Tung University

Hsinchu, Taiwan

B.S. in Computer Science | GPA: 3.9/4.0, Rank: 2/58

Sept. 2016 – Jun. 2020

- **Honor:** Academic Achievement Award, 4 Semesters
- **Activity:** TA of System Administration (graduate-level course)

## PROJECTS

### NFT Marketplace | Solidity, React, Node.js, Next.js, Bootstrap, RWD

- Utilized **Ethereum protocols** to implement smart contracts, allowing users to trade and manage NFT assets
- Created a **Full-stack web app** using React, Next, and Bootstrap with Responsive Web Design

### Fabric Defect Detection | Keras, PyQt, CNN

- Developed Fabric Defect Detection system with **DL Models** to help a local firm increase the production yield
- Increased accuracy by up to **20%** with the implementation of EfficientNet-B7 in Python Keras
- Built a UI with **PyQt** for workers to upload images, sample data, and automatically detect defects in the fabric

### Node.js Bulletin-Board System | Node.js, MongoDB, AWS, Apache Kafka

- Designed a BBS system using **Node.js**, allowing users to Register, Login, Chat, Create, Delete, and Edit posts
- Utilized **MongoDB**, **AWS S3** for saving user information and user's posts, **Kafka** for subscription service on different bulletin boards and internal message service

## SKILLS

**Languages :** C/C++, Python (Keras), JavaScript (React, Express, Node), TypeScript, Sass, Bash

**Tools :** Linux, Git, Storybook, Enzyme, Cypress, Docker, Wireshark, OpenWrt, MongoDB, AWS,  $\LaTeX$