

# Kai-Chih (KC) Huang

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## EXPERIENCE

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### Liberty Technology Solutions

Houston, TX

Software Engineer Intern

Jan. 2025 – Present

- Designed and built an **IoT** solution using **ThingsBoard**, enabling user, factory, and device management, including dashboard visualization, device control, and alert systems. Prototyped core functionalities, receiving **positive feedback from leadership** for potential deployment as a client-facing service
- Deployed the IoT solution on DigitalOcean**, optimizing cloud infrastructure for scalability and reliability
- Implemented **dockerized Kafka** to enhance real-time data streaming and event-driven messaging within the system

### Brilltek

Taichung, Taiwan

Software Engineer Intern (Backend Engineer)

June 2023 – Aug. 2023

- Engineered 6 production report APIs for the company's flagship Manufacturing Execution System (MES) using **Express.js**, **MySQL**, and **Docker**, improving data reporting efficiency across manufacturing operations
- Refactored the shift management API, reducing codebase by **43%** and improving query speed by **20%**
- Introduced an **Nest.js** platform to integrate internationalization (i18n) across all company projects, enabling external translators to translate directly on the web interface without accessing project code
- Automated data synchronization between the i18n platform and project repos by developing custom **Bash** scripts and configuring **GitLab-CI** pipelines, reducing manual updates by 95%

### NielsenIQ (formerly Nielsen)

Shanghai, China

Analyst

Apr. 2019 – Mar. 2020

- Managed project timelines, conducted primary and secondary research, and delivered data-driven reports
- Participated in 10+ projects including product pre-launch test, customer segmentation, and market entry research

## SELECTED PROJECTS

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### YouTube Downloader

- Created a responsive UI with **React** and backend APIs with **Django**, utilizing yt-dlp for video management
- Deployed frontend and backend to **AWS**, configuring **S3** for static hosting, **Route 53** for domain management, and **CloudFront** for content distribution
- Deployed backend on **AWS EC2**, using **Nginx** and **Certbot** for TLS, ensuring robust connection security
- Built a desktop application using **Electron**, extending functionality to desktop environments alongside the web version

### Splitwise Clone

- Developed a **fullstack** bill-splitting and expense-tracking app utilizing **React**, **Express.js**, and **PostgreSQL**
- Designed a normalized database schema following Boyce-Codd Normal Form (BCNF) principles

### Simple Operating System

- Built a **Unix-based operating system** with **C++** from the ground up running on an Intel x86 processor
- Architected a demand-paging virtual memory management system, with **two-level paging** and page fault handling
- Implemented a **file system**, **disk driver**, and kernel-level thread scheduling system

## EDUCATION

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### Texas A&M University

College Station, TX

Master of Computer Science, GPA: 3.8/4.0

Aug. 2022 – Dec. 2024

- Coursework: Analysis of Algorithms, Operating Systems, Database Systems, Software Engineering, Network Security

### National Taiwan University

Taipei, Taiwan

Bachelor of Business Administration, major in Finance, GPA: 3.6/4.3

Sep. 2014 – June 2018

- Exchange Student Program: National University of Singapore, Shanghai Jiao Tong University

## SKILLS

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**Programming Languages:** JavaScript, Python, Java, C++, Bash

**Frameworks/Libraries:** Express.js, Spring Boot, Django, React, Next.js

**Data/Tools:** SQL, Electron, Docker, GitLab-CI, AWS, Git, Linux