

CHIAO-WEI HSU

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🎓 EDUCATION

Stanford University (Auditing Courses)

Palo Alto, CA

Digital Nomad at Startup House 🏠

Since Sep. 2024

- ♣ Parallel Computing, Big Data Systems, Computer Graphics and Vision.

Northwestern University

GPA: 3.88/4.0

Evanston, IL

Master of Science in Computer Science

Since Sep. 2023

- ♣ **Scalable Software Architecture, Decentralization & Blockchain, Operating Systems, Computer Networks**, Programming Languages (Compiler/Interpreter/Garbage Collector).
- ♣ **Project**: “*Understanding User Challenges in Prototyping with Large Language Models*” supervised by Haoqi Zhang 🏠.

🏢 EXPERIENCE

Software Engineer Intern

Irvine, CA

Himax Imaging Corp.

Jun. 2024 – Sep. 2024

- Developed a **RESTful API** for the **AI PC** by **Django** and **Django REST framework** with **PostgreSQL**.
- Integrated **Websocket**, **Shared Memory**, and **Named Pipe** for **Inter-Process Communication** among the **microcontroller**, the **host PC**, and the application.
- Developed a library to communicate with the **microcontroller** FT4222 driver.

Software Engineer

Taiwan

Academia Sinica

Oct. 2018 – Dec. 2022

- nlds 🏠: Developed a python library of natural language data structure with **Design Patterns**—Composite, Factory, Template, Command, Facade, Adapter, Delegate, Builder, Strategy, Iterator, Dependency Injection, and Meta Class.
- Engineered a **Knowledge-driven Multi-Modal QA System** integrating **vision, speech, and text** data, advancing capabilities in cross-modal information processing.
- Developed a Person-Company Profile Generation System with **Django**, **MySQL Database**, and **typical Natural Language Processing** pipelines.

📁 PROJECTS

Decentralization and Blockchains System 🏠 VIDEO

Mar. 2024 – Jun. 2024

- Developed a **P2P Network** for the blockchain system using **Rust**.
- Implemented the data structures (e.g., Transaction, Block, Blockchain, Mempool) and algorithms for **Gossiping Protocol** and the **Proof of Work** consensus for the mining process.

Interpreter by Racket 🏠 CODE

Jan. 2024 – Mar. 2024

- Built a Parser, a Compiler, and a Garbage Collector with Mark and Sweep and Two-Space Collection along with my interpreter.
- Implemented features of deferred substitution, higher order functions, state, error handling, and recursions.

AI-Driven Grocery Logging and Recipe Suggestions App 🏠 DEMO

Sep. 2023 – Apr. 2024

- Adopted **ReactJS**, **Vite**, and **Firebase**; conducted tests using **Cypress**.
- Developed a **Serverless RESTful API** with **ExpressJS** as back-end deployed with **AWS ElasticBean**.
- Incorporated **API Gateway** with **AWS Lambda Functions**.
- **Engineered prompts for GPT-4 Vision**, deployed **OCR** to scan receipts, and implemented features to send expiry notifications and receipt suggestions.

AI-Powered Driver Companion Mobile App 🏠 DEMO

Mar. 2024 – Apr. 2024

- Incorporated AI models, **YOLOv4**, **GPT-4**, **Text-To-Speech**, **Speech-To-Text**, to streamline from image recognition to natural language processing.
- adopted **Django** as back-end, and **React Native**, **Expo** for mobile development.

✂ SKILLS AND KNOWLEDGE

Other Programming Languages: Java, Rust, PHP, Lisp/Racket, FORTRAN, SQL, SPARQL, LaTeX.

WebDev/Database: ReactJS, ExpressJS, Django, MongoDB, PostgreSQL, Redis, Firebase, WikiData, Neo4j.

🏆 HONORS

- 🏆 **3rd Place** in the **Taitung Mobile App Design Competition**, 2015, for innovative app development.

- ✂ **Silver Award** at Global Startup Weekend 2015; **Silver Award** at Sanmen Startup Competition 2016; **2nd Place** at PitchCamp for building an upcycling C2C/B2C platform and consultancy as a **then-cofounder**. The business has grown to 30 employees since 2016 and successfully raised 2 million US dollars in seed funding in 2025.
- ✂ **Outstanding Social Youth** of 2017 awarded by Chiayi City for exceptional community service and leadership.