Hung-Ta Chen

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EDUCATION

University of California – Davis **Davis, CA**
Master of Science in Statistics – Data Science Track Sep. 2022 – Jul. 2024

National Chiao Tung University **Hsinchu, Taiwan**
Bachelor of Science in Electrical & Computer Engineering Sep. 2019 – Jan. 2022

SKILLS

Languages: Python, JavaScript/TypeScript, Java, C#, C++, SQL, CSS, HTML, R
Web Development: React, Flask, FastAPI, NestJS, Django, Node.js, .NET
Machine Learning & AI: PyTorch, TensorFlow, Scikit-learn, OpenAI API, LlamaIndex, LangChain
Databases & DevOps: PostgreSQL, Redis, MongoDB, MySQL, AWS (S3, EC2, Lambda), Git, Docker, GitHub Actions

WORK EXPERIENCE

Software Engineer Intern **United States**
Ra Labs May. 2024 – Aug. 2024
- Architected a MetaGPT-based **multi-agent system** utilizing **OpenAI API** for dynamic AI-driven decision-making and interaction in a data analytics conversational app, integrating **human-in-the-loop** feedback for real-time improvements.
- Implemented a **retrieval-augmented generation (RAG)** system with **LlamaIndex** for efficient vector indexing of code snippets in a **Pgvector** database, enhancing code generation by providing quick access to relevant examples.
- Spearheaded development across both **NestJS** server and **Flask** server, resolving user interface challenges in the **React** and **TypeScript** frontend to optimize user experience.
- Managed robust data storage using **Amazon S3** for file storage, coupled with **Redis** for efficient dialog caching and session preservation, enhancing system responsiveness and reliability.
- Actively contributed within an **Agile** development environment that employed **Jira** for task management and **Scrum** methodologies, ensuring the timely delivery of project components.

Software Engineer Intern **Taipei, Taiwan**
LiTai Technology Jul. 2023 – Sep. 2023
- Engineered and integrated hardware components for payment systems using **C#**, **.NET**, and Windows Forms, focusing on card balance reading and transaction processing.
- Implemented real-time payment processing via third-party APIs and managed transaction data using **Microsoft Access**, significantly enhancing transaction efficiency.

Undergraduate Research Assistant **Hsinchu, Taiwan**
National Chiao Tung University Sep. 2020 – Jan. 2021
- Refined a virtual try-on model using **deep learning** techniques, notably GANs and UNet in **PyTorch**, achieving enhanced garment rendering accuracy trained on a dataset of over 10,000 images.
- Utilized **OpenCV** and **PIL** for image preprocessing and data augmentation, along with JSON for efficient pose extraction.

PERSONAL PROJECTS

Accessify: Interactive Accessibility Mapping Application Apr. 2024 – May. 2024
- Created an interactive mapping application using **React** and **Google Maps API**, backed by a **Flask** backend server and **PostgreSQL**, improving accessibility information dissemination.
- Integrated a chatbot using **LangChain** and **Google Maps API** with a Retrieval-Augmented Generation (**RAG**) system, utilizing **MongoDB** to enhance dynamic data handling and real-time user interactions.

Food Waste Reduction App - 2024 Apps for Food and Ag Hackathon Jan. 2024 – Mar. 2024
- Developed and deployed a food waste reduction app with a **Django** backend on **AWS EC2**, featuring RESTful APIs for accurate food recognition and detailed food record management

AI-Powered Coding Problem Classifier Feb. 2023 – Apr. 2023
- Developed a **BERT**-based model using **Hugging Face**'s transformers to predict coding topics, achieving an F1 score of 0.63.
- Managed a dataset of 2500+ challenges collected with **web scraping** using **MySQL**, enhancing model training and accuracy.