Shih-Hung Wei 魏士閎

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Summary

I am a Master of Engineering in Computer Science graduate from Virginia Tech with development experience in Python and C++. My experience includes developing data pipelines, optimizing system performance, and enhancing product quality through effective problem-solving and collaboration, with deployments on AWS and GCP. Currently, I work as a Software Engineer in the TSMC, and I am actively seeking software-related opportunities to further drive impactful solutions.

Education

Virginia Polytechnic Institute and State University(Virginia Tech), Falls Church, VA *2023 – 2024*

*Master of Engineering - **Computer Science***

National Yang Ming Chiao Tung University (NYCU), Hsinchu, Taiwan *2018 – 2022*

*Bachelor of Science, Department of **Computer Science***

Bachelor of Science, Department of Biological Science and Technology

Skills

General Development Python3, C/C++, JavaScript, TypeScript, Git, PHP, Bash, AWS, GCP

Frameworks React, Next.js, Node.js, Express, Django, Firebase, PyTorch, Scikit-learn, TensorFlow

Interested Fields Frontend, Backend, Machine Learning

Work Experience

Software Engineer, TSMC, Hsinchu, Taiwan *March.2025 – present.*

- Designed and implemented Web RESTful APIs using Java for internal applications on Azure Kubernetes Service.

Software Developer Intern, Radical AI, Remote, United States *June.2024 – Aug.2024*

- Contributed to **Kai**, an open-source AI Coach, by implementing enhancements and debugging using **Node.js** and **React.js**.

Research & Development Intern, SHOPLINE Technology Corp., Taipei, Taiwan *July.2022 – Feb.2023*

- Implemented operations quality requirements on **AWS**, to ensure SHOPLINE's e-commerce platform integrity and compliance.
- Identified 150+ defects and developed **JavaScript** test scripts, boosting product quality by 30% and front-end reliability.

Undergraduate Researcher, Drug Design and Systems Biology Laboratory(BioXGEM), NYCU *July.2020 – June.2022*

- Developed a full-stack web tool leveraging **JavaScript/PHP** and **Python**, facilitating user-friendly interactions with lab server utilities for efficient moiety extractions. The tool garners over 30 daily uses in lab. | ***link***
- Improved lab's data analysis workflow by integrating multiple Python tools into the website via PHP, making advanced data.

Project Experience

Airline Data Query Platform – Capstone Project (Master's Degree) *Aug.2024 – Dec.2024*

- Built a web-based platform for analyzing U.S. domestic airline data using **Spark/Hadoop** for distributed processing with a singleton pattern, **Django** and **React.js** with **RESTful APIs** for interface and deployed via **Docker** on a **Kubernetes** cluster.
- Developed an intuitive natural language query interface leveraging an Large Language Model(LLM) to convert English requests into SQL queries, enhancing accessibility for non-technical users.

wei4r.type - Zhuyin Typing Game | type.wei4r.com *Mar.2023 – June.2024*

- Independently designed and deployed a Zhuyin typing game using **Next.ts** and **Firebase**, focusing on user engagement and real-time performance metrics, hosted efficiently on Vercel.
- Managed and maintained the project's domain, ensuring user experience and accessibility for an interactive typing platform.

BookShelf - Online Bookstore – Course Project *Aug.2023 – May.2024*

- Built a full-stack bookstore platform, integrating **React** with **RESTful** API, and JSP/Servlet JDBC for backend/database.
- Deployed the application on **AWS** by configuring a secure VPC with EC2 instances for both the web server and database (using public and private subnets), leveraging Docker and Route 53 to ensure continuous and secure online accessibility.

Applications of Machine Learning for Compound-Protein Interaction, NYCU *July.2020 – June.2022*

- Redesigned compound functional group extraction tool by RDkit(**Python**), enhancing lab analysis capabilities and efficiency.
- Built multiple AI models through Python Packages, to predict CPI and FDA approval, ACC achieved 75%.
- Awarded a Research Grant for University Students by the Ministry of Science and Technology (MOST).