Shih-Hung (Hank) Wei

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Education

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

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

- Completed 178 credits / Double major in 4 years, overall GPA: 3.35

Skills

General Development C/C++, Python3, Git, Php, Bash, AWS

Web Development React, Next.js, Express, Django

Machine Learning PyTorch, Scikit-learn, TensorFlow

Work Experience

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

- Contributed to ReX, 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 and logged 150+ software defects, which led to a 30% improvement in product quality.
- Developed **JavaScript** test automation scripts enhancing front-end product reliability and user experience.

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 workflow by integrating multiple Python tools into the website via PHP, making advanced data analysis accessible to all lab members.

Project Experience

Kinase Inhibitor Prediction via Graph Neural Network, NYCU *Sept.2021 – June.2022*

- Converted 3D compound structure information to graph format using RDkit package in **Python**.
- Proposed an end-to-end GNN model through **PyTorch** independently to predict compound-protein (kinase) inhibition(CPI).
- Achieved a 16% increase in ROC-AUC prediction score compared to feature-based models.

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

- Redesigned compound functional group extraction tool using RDkit, enhancing lab analysis capabilities and efficiency.
- Built multiple AI models through Python Packages, to predict CPI and FDA approval, ACC achieved 75%.

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

- 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.
- Awarded a Research Grant for University Students by the Ministry of Science and Technology (MOST).

BookShelf - Online Bookstore | *link* *Aug.2023 – Dec.2023*

- Built online bookstore platform in a *Web Development Application* course, integrating **React** with **RESTful** API.
- Enhanced data handling with **MySQL** and **JDBC**, improving efficiency.