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 JavaScript, TypeScript, jQuery, Next.js, Django **ML** 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**.

Project Experience

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

Networking and Sensing Systems (NSS) Lab, NYCU

- 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 inhibition(CPI).
- Achieved a 16% increase in ROC-AUC prediction score compared to feature-based models.

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

Drug Design and Systems Biology Laboratory (BioXGEM), NYCU

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

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.

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

- Solely engineered project, employing JavaScript, HTML/CSS to create an typing game for Zhuyin users (mostly in Taiwan).

Awards

Research Grant for University Students, MOST, Taiwan *July.2021 – Feb.2022*

Prediction of FDA Drug Approval via Random Forest Model, BioXGEM lab, NYCU

- 8-month independent project supported by a Ministry of Science and Technology(MOST) in Taiwan grant.