

I-Hsuan (Michael) Hu

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Education

- M.S. in Computer Science, Stevens Institute of Technology, NJ (GPA 3.8) Sep. 2022 – May 2024
- Vice President of Taiwanese Graduate Student Association
- M.S. in Entomology, National Chung Hsing University, Taichung (GPA 4.1/4.3) Aug. 2018 – Feb. 2021
- B.S. in Entomology, National Chung Hsing University, Taichung Sep. 2013 – Jun. 2017
- President of Entomology Student Association

Experience

- Software Engineer Intern at JCN Information Technology Co. (IBM partner), Taipei** Jun. 2023 – Aug. 2023
- Developed function to modify and migrate SQL schemas from Teradata to IBM DB2, reducing task completion time from two days to just two hours (87% increase in efficiency), ensuring seamless data integration.
 - Utilized Trinity to build data pipelines on Red Hat Linux to configure data extraction, perform data transformations, and automate loading from Teradata to IBM DB2 for Hua Nan Bank.
 - Modified application code to ensure compatibility with IBM DB2's SQL syntax and functionality. Tested and validated modified shell scripts to ensure correct access and operations.

- Project Assistance at National Chung Hsing University, Taichung** Dec. 2021 – Jul. 2022
- Developed Python program to read Excel files containing data and allow selection of statistical methods such as Survival Analysis, Principal Component Analysis (PCA), and Generalized Linear Models (GLM). Generated charts and tables for academic publication purposes.
 - Streamlined the data processing workflow, significantly reducing time from data input to analysis and chart generation from three hours to thirty minutes, resulting in 83% improvement in processing speed.
 - Collaborated with external vendors on product development in pest control industry, providing insights and recommendations to accelerate the development and commercialization process.
 - Led lab students in designing and executing experiments properly, ensuring accurate data collection.

- Data Analyst at Ecolab Inc., Taipei** Mar. 2021 – Oct. 2021
- Used Python to analyze collected data from clients and generate insights. Extracted data from Excel, processed it using Probit Regression, Analysis of Variance (ANOVA), and Logistic Regression models, and then automated generated reports with data analysis results and tables.

Selective Projects

URL Shortener

- Designed URL shortening service using Angular 17 for frontend display and Golang for backend server operations, with PostgreSQL as the database to store hash value and original URL pairs.
- Implemented Docker to containerize application, enhancing scalability and deployment efficiency. Deployed containerized application to the cloud.
- Utilized GitHub Actions to automate testing and deployment, ensuring a reliable and efficient CI/CD workflow.

Online Marketplace

- Developed web marketplace platform using Node.js for backend operations and JavaScript, jQuery, and Ajax for dynamic frontend interactions. Integrated MongoDB for data storage and Google API for Google Maps integration, allowing users to buy and sell items with photo uploads and scheduled meetups.
- Utilized Agile methodology to enhance development speed and project quality, conducting weekly scrum meetings and using user stories to describe system functionalities.

Taiwan Stock Selector

- Built stock analysis tool using .NET Core for backend services, MS SQL for database management, and React for the frontend interface.
- Implemented stock recommendations based on indicators such as trading volume, institutional investor activity, and shareholding structure analysis. Allowed users to add stocks via stock symbols and display real-time quotes.

Multimodal Chronic Disease Prediction System

- Developed application to predict diabetes, hypertension, and heart disease using machine learning and natural language processing. Utilized Python for data processing and model training, leveraging BERT, BiomedBERT, and GPT-2 for natural language understanding, and employed Deep Neural Network (DNN) to integrate clinical notes and laboratory results.
- Used PostgreSQL for patient data storage, and implemented Flask to manage user authentication, health data input, and model predictions, with a React frontend allowing doctors to query patient disease probabilities and recommend preventive measures.

Skills

Programming Languages: Python, JavaScript, TypeScript, C#, Java, Golang

Database: PostgreSQL, MongoDB, MS SQL

Technology: React, Angular, Node.js, .NET Core, Git, Docker, AWS, Linux