

# TZU-HAN LIN

🏠 <https://tzuhan2424.github.io/>

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## Education

### Kean University

MS, Computer Information System, GPA: 4.0

Jan. 2022 – present

Union, NJ, USA

### National Tsing Hua University

BS, Medical Science

Sep. 2013 – June 2017

Hsinchu, Taiwan

## Experience

### Strategic analytics & data illumination - Kean University

Graduate Assistant

Sep 2023 – present

Union, NJ

- Technology: ReactJS, Javascript, C#, ASP.NET, MS SQL
- Created a comprehensive full-stack framework tailored to efficiently manage diverse departmental data for the Integrated Postsecondary Education Data System (IPEDS).
- Crafted a user-centric frontend, implementing input restrictions for data integrity. Enhanced reliability with backend validations to cross-check and ensure accuracy of all data entries.
- Designed a flexible database schema to seamlessly store multi-year data for historical tracking and analysis, while utilizing ASP.NET to construct a robust and scalable backend system.

### Computer science department, Kean University

Programming Tutor

Sep 2022 – May 2023

Union, NJ

- Proficient in assisting with student challenges related to MySQL, PHP, data structures, Java, and Python.

## Research

### Weakly-Supervised Tumor Image Segmentation Framework

May. 2023 - present

- Technology: python, pytorch, numpy, openCV, scikit-learn
- Design an algorithm that applied Convex Hull algorithm on Class Activation Mapping (CAM) for subset selection and implemented Mean Teacher semi-supervised learning technique for Intersection over Union (IoU) calculation

### The impact of household income, education on Covid-19 deaths

May-Aug 2022

- Designed and developed PHP programs, optimizing MySQL queries for efficient data extraction from databases and visualization of results using Google Charts.
- Conducted Chi-Squared Tests on relevant attributes to verify assumptions.

## Projects

### The Virtual Try-on Booth | Docker, Python, Flask, PHP

Sep-Dec 2023

- Developed a backend system for a fashion e-commerce website, integrating deep learning models to enable a virtual try-on feature. This involved constructing server-side request handling mechanisms for seamless user experience.
- Authored Docker files and deployed various components on the server, ensuring scalable and efficient operation of the virtual try-on functionality.

### Inventory Management and Order Processing System | HTML/CSS, PHP, MySQL, Linux

Sep-Dec 2023

- Engineered stored procedures to leverage database server capabilities, effectively reducing application server load.
- Implemented concurrency mechanisms to efficiently handle multiple transactions.
- Designed database triggers for robust auditing of table modifications.

### Mars Terrain Type Segmentation with Novel Edge Detection | Python, PyTorch

Jan-May 2023

- Performed comparative analysis between a Fully Convolutional Network (FCN) and a custom FCN with edge feature channel for image segmentation, focusing on Mars terrain type.
- Improved the bedrock type recall rate by 5%.

### Analysis of job hiring trends across diverse categories during the pandemic | Python, Pandas

Jan-May 2023

- Implemented a web scraper for LinkedIn to collect hiring data
- Conducted pandemic-era job category hiring analysis with data visualization

### Online Banking System | HTML/CSS, PHP, MySQL, Linux

Sep-Dec 2022

- Designed and developed a user-friendly online banking system website with a three-tier architecture, enabling secure user login, seamless transaction processing, and data validation process.

## Technical Skills

**Languages:** Python, Java, PHP, HTML/CSS, C#, JavaScript, MySQL, MS SQL, PL/SQL

**Deep Learning Framework:** Pytorch

**Package:** Scikit, Numpy, OpenCV, Pillow, Matplotlib, Pandas

**Technologies/Web Frameworks:** Docker, Git, Linux, Bootstrap, Flask, ASP.NET, React, Azure