YANGHE LIU

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EDUCATION

University of Michigan-College of Engineering Ann Arbor, MI
Bachelor of Science in Engineering in Computer Science August 2021-May 2024

- **GPA**: 3.91/4.00
- **Main Coursework**: Machine Learning, Web Applications & Web Systems, Database Management Systems, Computer Vision, Data Structure and Algorithm, Computer Architecture, Statistics & Data Analysis
- **Dean's Honor List**: Winter 2023, Winter 2022, Fall 2021
- **Skills**: C/C++, Python, Java, Flask, HTTP, XML, REST API, SAAS, JavaScript, MySQL, MongoDB, React, HTML5/CSS, Hadoop, Git, Linux, R, Visual Studio, TCP/IP Protocol, Gunicorn, Nginx, C#, PHP

University of Wisconsin-Madison Madison, WI
Bachelor of Science, Undecided (Computer Science) January 2020-May 2021

- **GPA**: 4.00/4.00

PUBLICATION

Ziheng X., ***Yanghe L***., Shengchao Z., Yue Y., Zongqi Y., Zhiwei X., Yi J., Diyan G., Chihuiye C., **Perceived benefits, risks, and decision preferences,** has been submitted to *JOURNAL OF ORGANIZATIONAL BEHAVIOR* for review 2023

WORK EXPERIENCE

Resumaster.AI Studio Ann Arbor, MI
Founder of the Resumaster:AI Studio January 2023-In Progress
Project URL: https://resumaster.ai/

- Form a team to create an application for tailoring resumes and cover letters to specific job descriptions
- Applied Python Flask to construct a REST API server capable of modifying work and project experiences extracted from a PDF file, and returning the revised content as a JSON file
- Devised prompts to optimally interact with the GPT 4.0 API, ensuring the high quality of the content
- Utilized Figma and React to create the user interface and facilitate client-server communication
- Developed the authentication system of the website using MySQL that securely stores the user's information
- Deployed this App on AWS using Gunicorn and utilized Nginx as a reverse proxy to enhance security
- Assisted over 1500 clients with resume revisions in 10 weeks, earning a 4.5/5 satisfaction rate

Solve Education Foundation Sacramento, CA
Software Development Intern June 2023-August 2023

- Developed a chatbot in Python that can generate fun English exercises and interact with children
- Transitioned chatbot data system from Pickle-based storage to a NoSQL MongoDB database to enhance scalability and data management efficiency while successfully reducing error reports by 10%
- Utilized Python's Telegram Bot Library to generate text responses based on user input
- Improved the function that can check the status of the mission queue and generate reports
- Created an API endpoint to return users' LA codes and display these codes in the reply of the chatbot

University of Michigan Ann Arbor, MI
Researcher & Web Application Developer November 2022-March 2023

- Developed a web Application for psychological research using Python and Flask web framework
- Designed an online experiment that guides participants to play the games and answer the questions
- Implemented the database using MySQL to securely record participants' choices in the survey and experiment
- Designed and developed a user-friendly user interface for the web app using CSS, HTML5, and JavaScript
- Refined the code to guarantee smooth server operation under the load of 400 concurrent users

RESEARCH PROJECT

The Statistics Online Computational Resource (SOCR) Research Project Ann Arbor, MI
Researcher of Clustering Calculator Team & Web App Dev Engineer, Advisor: Prof. Ivo Dinov January 2023-In Progress

- Used new ML models to systematize and perform detailed analysis of medical data
- Developed an online clustering app for SOCR to cluster data based on user needs using clustering methods such as Hierarchical Clustering, Spectral Clustering, Fuzzy C-Means Clustering, Poisson Clustering, and Decision Tree Clustering, and analyze data using one-way ANOVA calculation
- Develop a pairwise ANOVA test to identify the pair of groups that are most similar or different, based on their p-values
- Created the secondary functions of the clustering App, such as allowing users to download CSV files and clustering result
- Collaborated with the distribution calculator Team to provide both the clustering and distribution calculator services

A Sample Gradient-Based Explainability Method for ViT Ann Arbor, MI
Group Leader & Main Researcher, *Advisor: Professor Andrew Owen* October 2022-December 2022

- Proposed a method to generate interpretable images using attention matrices of deeper layers of Vit
- Aggregated the attention of each token and combined with the contribution of different heads in the Vit
- Implemented visualization method against Meta Researchers' ViT method and Grad-Cam method
- Produced results better than the Researchers' method when there are multiple targets in the image