Edward Zhu

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EDUCATION

University of California, Irvine — Irvine, CA
Bachelor's of Science in Computer Science, GPA: 4.0 — *Sep. 2023 – Jul. 2027*

- Data Structures and Algorithms
- Data Management (SQL)
- Principles in System Design
- Project in Artificial Intelligence
- Machine Learning

Lexington High School — Lexington, MA
Honor Roll, Unweighted GPA: 4.06 — *Aug. 2019 – Jul. 2023*

PROJECTS

Google Drive RAG Document Assistant | *Python, Pandas, Google API, OpenAI API* — 2024
Created an end-to-end RAG system that extracts insights based on a users relevant Google Docs

- Developed an **OAuth-based** authentication flow to securely connect and access users' Google Drive accounts
- Leveraged the Google Drive API to retrieve and parse user documents, storing structured content as **CSV** files
- Created **vector embeddings** of document contents using OpenAI's Embedding API for semantic understanding
- Implemented a vector search pipeline to identify and rank relevant documents based on user queries
- Integrated OpenAI's GPT API to generate context-aware responses grounded in retrieved document content

Twitch Clips Compilation Bot | *Python, Selenium, FFmpeg, Twitch API, YouTube API* — 2024
Created an end-to-end automated compilation creation and publishing pipeline using Twitch and YouTube APIs

- Integrated with the **Twitch API** to retrieve a customizable number of top videos within a user-defined time frame
- Leveraged **selenium**-based webscraping to download the clips
- Used **ffmpeg** to automatically merge and format clips into a single highlight compilation
- Automated uploads to YouTube via the YouTube Data API
- Reduced manual content editing and publishing time to zero through full end-to-end automation

Interactive Shell Terminal | *C, Forking, Piping, File Descriptors* — 2025
Created a shell that supported custom scripts as well as built in commands and features like back-grounding processes

- Utilized **process forking** to create new subprocesses to handle jobs
- Incorporated **piping** and modified file directories to allow for command chaining and input and output redirection

EXTRA CURRICULARS

Collegiate Cyber Defense Competition (CCDC) - UCI Team Alternate — 2023-Present

- Placed in the **top 5%** out of 413 teams at Hivestorm, a find and repair vulnerabilities competition
- Selected as an alternate for the official CCDC team after ranking top 12 out of 60 in competitive internal tryouts
- Deployed containerized services using **docker** and modified them through YAML files and volumes
- Setup and hardened services such as **Active Directory, Apache, FTP and SMB** file shares

UCI Science Olympiad - Code Busters Event Supervisor — 2023 – 2024

- Created the Code Busters test taken by **over 100** students at Orange County Regionals
- Collaborated in a team of 19 supervisors to plan event logistics

CERTIFICATES AND AWARDS

Phi Beta Kappa Honor Society Book Award — UCI
Received an award for rising Sophomores who maintained a 4.0 GPA — *2024*

Data Science and ML: Making Data-Driven Decisions — MIT
Earned an MIT certificate demonstrating a mastery of MLP, CNN, KNN, SVM and Random Forest models — *2022*

TECHNICAL SKILLS

Languages: Python, C/C++, SQL, R, MIPS Assembly
Developer Tools: Git, GDB, Valgrind, Docker, VS Code, Vim, PyCharm
Libraries: pandas, NumPy, Matplotlib, sklearn, keras, selenium
Other: Windows, Linux