Zhiyang (George) Zuo

(781) 526-9392 | georgezuo888@gmail.com | https://zzuo123.github.io

EDUCATION

University of Massachusetts Amherst Amherst, MA
Bachelor of Science in Computer Science and Mathematics (GPA: 3.993) *September 2020 - May 2024*
Relevant Courses: Algorithms for Data Science, Machine Learning, Artificial Intelligence, Scalable Web Systems, Data Management, Search Engines, Formal Language Theory, Network Security, Networking Lab

University of Massachusetts Amherst Amherst, MA
Master's Degree in Computer Science *September 2024 - May 2025 (Expected Graduation)*
Relevant Courses: Neural Networks, Reinforcement Learning, Advanced Information Assurance

WORK EXPERIENCES

Stoke Therapeutics Bedford, MA
Bioinformatics Summer Intern, Platform Discovery Group *June 2022 – August 2022*
- Collaborated with 3 scientists to implement a High-Throughput RNA-Seq QC pipeline using AWS, Docker, and Snakemake to automate sequencing data processing in the TB scale and generate dynamic visual reports.
- Performed tests to assess the efficiency of RNA-Seq QC tools and developed a Python script to automatically configure AWS cloud computing resources for the pipeline based on input size to lower cost by 50%.

Biogen Cambridge, MA
Summer Intern, Technical Product Complaint Department *June 2021 - August 2021*
- Designed and implemented a product defect knowledge wiki on Confluence with a global team of SMEs that improved team efficiency and enabled the department to retain key knowledge essential for team functioning.
- Created a Python program to extract common wordings from 10k+ product complaints for new-hire training.
- Automated an hour-long Excel index match process using Python and the Pandas library to standardize data processing and reduced the time required for the team to generate the monthly report.

Manning College of Information and Computer Sciences Amherst, MA
Undergraduate Course Assistant: Operating System & Physical Computing *September 2022 – May 2024*
- Hosted semiweekly office hours where I answered students' questions about course materials and assignments.
- Collaborated with 8 other UCAs to grade 150+ students' assignments and labs within 1 week of the deadline.
- Designed midterm exam problems and solutions to effectively assess students' understanding of course materials.

PROJECTS

JellyRec (https://zzuo123.github.io/blog/jellyrec/) *July 2024 - September 2024*
- Developed a movie recommendation system using machine learning and collaborative filtering on the MovieLens dataset.
- Refined data filtering to achieve a 7% lower RMSE on testing data compared to the ML-Small dataset with similar overhead, enabling more accurate recommendations while keeping training under 1 minute and response times under 5 seconds.
- Built the frontend with Svelte and implemented the backend using SvelteKit and Flask, enabling fast, real-time movie recommendations with a seamless user experience.

Poll Creator (https://zzuo123.github.io/projects/poll-creator/) *November 2023 – December 2023*
- Built a full-stack web application that allows users to create and share polls, as well as querying polls on the site.
- Used the Svelte JS framework responsive components and Bootstrap to create an aesthetically pleasing frontend.
- Created backend microservices with REST APIs that scale using PM2 load balancing to ensure high availability.
- Dockerized all backend and frontend services to allow for ease of deployment and improved application scalability.

StockExpert.io (https://github.com/therealcyberlord/StockExpert.io) *February 2023 – June 2023*
- Created a full-stack web application for tracking stock prices and historical trends, as well as AI-based sentiment analysis.
- Implemented backend using Express and frontend using JavaScript DOM re-rendering to improve load speed.
- Designed and implemented data models on MongoDB Atlas to store and query user and stock data efficiently.
- Integrated a Hugging Face machine learning model to generate real-time sentiment score for each stock based on news headlines scraped from multiple publicly available APIs.

SKILLS

Programming languages: Python, Java, C, JavaScript, C++, Assembly, SQL, Rust, Snakemake, Nextflow
Frameworks: Node.js, Svelte, Express JS, MongoDB, PostgreSQL, Bootstrap, Flask, NLTK, Pandas, NumPy
Technology: Git, GitHub, Docker, Ubuntu Linux, AWS, Heroku, Figma, Raspberry Pi, Embedded System Programming