Jason Wu

wu80jason8@gmail.com | LinkedIn | GitHub | (925) 409-1051

EDUCATION

Santa Clara University **Santa Clara, California**

B.S. in Computer Science and Engineering *Expected Graduation, June 2027*

- **GPA:** 3.91/4.0
- **Related Coursework:** Data Structures & Algorithms, Physics for Engineers, Probability and Statistics for Engineers, Calculus I-IV, Object Oriented-Programming & Data Structures, Embedded Systems, Operating Systems

EXPERIENCE

Software Engineer Intern, Datatrixs — San Francisco, CA **July 2024 – October 2024**

- Developed a full-stack SaaS application using React.js, Express.js, MongoDB, and AWS SDK to automate tasks for CPAs.
- Programmed and maintained a serverless architecture by leveraging AWS services including S3, Lambda, and Cognito which reduced deployment and login times by 25%.
- With OpenAI's API, fine-tuned GPT-4o LLM to automate financial statement generation (Profit and Loss, Cash Flow, Balance Sheets, Income Statements), improving response accuracy by 50% and boosting client satisfaction by 20%.
- Leveraged AWS S3 to integrate a file uploading feature, enabling users to upload custom financial data to the LLM.
- Engineered an agentic RAG pipeline using OpenAI Assistant's API to enable accountants to generate financial charts on data with natural language, reducing creation time by 93% drastically cutting down on manual workload for accountants.

Undergraduate Researcher, Human-AI Systems Optimization Lab — Santa Clara, CA **September 2023 – July 2024**

- Under the supervision of Dr. Junho Park, implemented a digital twin environment utilizing machine learning, creating a bidirectional pipeline between the virtual and real world to provide more employment opportunities for amputees.
- Developed and trained an eight-layer dense neural network and 1D CNN achieving 91% accuracy for multi-classification of muscle movements based on a dataset of EMG signals with TensorFlow.
- Spearheaded the development of a RESTful API using FastAPI, enabling real-time transmission of EMG sensor data from Arduino to AR headset. Integrated a pipeline to display sensor data visually as muscle movements on AR headset display.
- Dockerized and deployed API on DigitalOcean for scalable, high-availability access.

Software Engineer, AVBotz — Pleasanton, CA **August 2021 – June 2023**

- Contributed to computer vision projects aimed at enhancing object detection capabilities for club's automated systems.
- Designed a color detection system with Python and OpenCV to accurately identify red ellipses on a torpedo board. Applied solvePnP algorithm for precise 3D positioning from 2D images, achieving robust Euler angle determination.
- Developed a HSV color filtering algorithm with OpenCV to enhance noise reduction underwater by 50% empowering Autonomous Underwater Vehicle (AUV) to precisely align with orange path markers based on angle and relative coordinates.
- Achieved RoboSub 2022 Autonomy Challenge 2nd Place (International), while being the only high school team to participate in competition and beat out 37 other university teams (i.e. CMU, Duke, Cornell).

PROJECTS

Visionairy **February 2025 – March 2025**

- Built an agentic AI pipeline using Python, LangChain, Browser Use, and Google Speech-To-Text AI to assist visually impaired users with online navigation and flight booking.
- Won $1,500 Most Likely to Be a Startup prize at Hack for Humanity 2025; project was recognized by Apple Accessibility Team.

Mind Over Matter **June 2024 – August 2024**

- Developed a full-stack RAG application aimed to support individuals who face mental health challenges, featuring personalized responses from an LLM based on uplifting quotes utilizing React.js, Tailwind, and Flask API.
- Integrated a LLama3 model with LangChain to implement a RAG pipeline, using a ChromaDB vector store to store and retrieve quotes embeddings, enabling personalized and contextually relevant responses to user queries.
- Implemented session-based user authentication, incorporating CSRF token authentication to prevent unauthorized actions.

PUBLICATIONS

Wu, J., Jangid, V., & Park, J. Digital Twin for Amputees: A Bidirectional Interaction Modeling and Prototype with Convolutional Neural Network. *Human Factors and Ergonomics Society,* 2024, Link

Jangid, V., Sun, A., Wu, J., & Park, J. Ergonomic Augmented Reality Glasses Development for Workload Detection with Biofeedback Data and Machine Learning. *Human Factors and Ergonomics Society,* 2024, Link

SKILLS

Languages: Java, Python, C, C++, HTML/CSS, JavaScript, Bash, Verilog, SQL, TypeScript, Assembly

Technologies: Next.js, React.js, Node.js, Flask, Express.js, AWS, MongoDB, Docker, Machine Learning, Computer Vision, Firebase, LangChain, ChromaDB, ROS2, Git, Tensorflow, Linux, OpenCV, FastAPI, PostgreSQL, OAuth, Supabase, Web Sockets, Github Actions