Steven Hsu

619-928-8154 | stevenhsu5679@gmail.com | linkedin | github | website

EDUCATION

University of California San Diego — Sep. 2021 - Jun. 2025
B.S. Mathematics and Computer Science — *GPA 3.71/4.0*
Relevant Coursework: Advanced Data Structures, Algorithms, Digital Systems, Object Oriented Programming, Operating Systems, Parallel Programming, Re-commender Systems, Machine Learning

EXPERIENCE

AI/ML Teaching Assistant — Jun. 2025 – Present
MIT Lincoln Laboratory — *Remote*
- Engineered a suite of interactive Jupyter Notebook modules, enabling over **35 students** to experiment with real-world ML algorithms and visualize results through matplotlib.
- **Led a team of 7 students** to architect and deploy an AI-powered Zoom wellness platform, achieving **92% model accuracy** in real-time posture and emotion detection.
- Implemented and taught core algorithms for audio pattern recognition, image classification, and natural language processing, ending in a final capstone project.

Math Tutor — Sep. 2024 – Jan. 2025
UCSD Mathematics — *La Jolla, CA*
- Led weekly tutoring sessions for groups of up to **40 students**, clarifying complex mathematical concepts and enhancing student confidence in problem-solving as observed through classroom participation and feedback.
- Developed interactive learning materials for students' understanding and provided constructive feedback and active listening with students with a wide variety of math ability, impacting **600+** students taking the course.
- Demonstrated effective communication and adaptability by teaching groups students simultaneously, honing teamwork and interpersonal skills.

Research Assistant Intern — Jul. 2023 – Oct. 2023
Code Research Lab — *Remote*
- Worked with San Diego State Professor Dominic Dabish in a team of 4 to demonstrate dangers of insecure LLM integration within an application.
- Developed secure and insecure PHP application demos with **GPT-3 integration** that was susceptible to JSON Injection through Prompt Engineering based on unsanitized outputs.
- Presented code demos to **50+** students while educating them about security measures to employ for application security in LLM APIs.

PROJECTS

NFL Trend Analysis | *Python: Pandas, Selenium, Statsmodels* | Link
- Partnered with a team of 3 students to develop and implement a machine learning model to predict viewership and search trends measured by previous NFL season data particularly on the Kansas City Chiefs.
- Utilized a large dataset acquired from web scraping, consisting of ∼**3000** data points of NFL viewership data, which was wrangled and transformed into **1200+** elements with 10 different variables, with data from 2014 to 2024.
- Identified viewership patterns based on TV network and employed traditional machine learning algorithms, including linear regression, ARIMA, and SARIMA models to forecast future NFL viewership data for the Kansas City Chiefs.

Huffman Compression/Decompression Tool | *C++, GDB*
- Designed and programmed a Huffman compression and decompression tool in C++ through a bitwise I/O stream to read and write individual bits to and from a file.
- Constructed a Huffman tree using a bitwise buffer and tree serialization, leading to a **30% decrease in filesize**
- Optimized and profiled runtime using gprof (GNU Profiler), leading to a **10% decrease in overall runtime**

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, C/C++, SQL, HTML, CSS
Frameworks/Libaries: React, Next.js, Flask, Numpy, PyTorch, Pandas, Keras, Jupyter, Matplotlib
Developer Tools: Git, Docker, AWS Cloud, VS Code, Linux, WSL
Other: Agile, Scrum, Unit Testing, REST API