

Education

University of California, San Diego

M.S. IN COMPUTER ENGINEERING (MACHINE LEARNING AND DATA SCIENCE)  
B.S. IN COMPUTER ENGINEERING

San Diego, CA  
Sept 2023 - March 2025  
Sept 2020 - June 2023

- 3.8 GPA | Member of Honor Societies Tau Beta Pi (TBP) and IEEE - Eta Kappa Nu (HKN)
- Relevant Coursework: Advanced Data Structures and Algorithms, Machine Learning, Server Architecture, Web Development, Databases, Cryptography

Work Experience

Juni Learning

COMPUTER SCIENCE INSTRUCTOR

Remote, CA  
June 2024 - Present

- Taught competitive programming classes to middle and high school students interested in competing at the USA Computing Olympiad (USACO).
- Received 100% positive feedback from parents of students who were coached in private one-on-one tutoring sessions.

Tesla

SOFTWARE ENGINEER INTERN

Palo Alto, CA  
Jan 2024 - April 2024

- Optimized Tesla's vehicle diagnosis software, Toolbox, by improving SQL database queries and API endpoints which resulted in a 60% faster page load.
- Created 14 new web pages using React.js, Redux, Typescript, and C++ which allowed Service Engineers to execute vehicle commands in a secure terminal.
- Migrated 1 large, centralized service into 2 distributed microservices using Docker controlled by Kubernetes, which increased Tesla's backend efficiency.
- Built a new Golang backend which syncs data from 10+ data sources into one centralized S3 bucket, resulting in 30% faster request speed on Tesla's APIs.

UC San Diego

MACHINE LEARNING RESEARCHER @ MOBILE SYSTEMS DESIGN LAB

San Diego, CA  
Jan 2022 - Present

- Developed a React Native mobile app that enables patients to record themselves performing physical therapy exercises at home while being given real-time feedback using skeletonized models displayed on the phone using OpenCV, Mediapipe, TensorFlow, Typescript, and C++.
- Built a Python server which trains an exercise model by accepting a skeleton JSON via an API endpoint, executing k-means clustering, extracting top features, performing principal component analysis, creating a Gaussian mixture model, and pushing the calculated model weights to a PostgreSQL database.

TEACHING ASSISTANT

Sept 2021 - Mar 2023

- Helped 1,400+ students by grading exams, giving constructive feedback with programming assignments, and holding tutoring sessions outside of normal class time in a Data Structures and Algorithms class, teaching binary search trees, linked lists, stacks, heaps, priority queues, and hashmaps.
- Received 100% student approval rating across 200+ one-on-one sessions.

Qualcomm

SOFTWARE ENGINEER INTERN

San Diego, CA  
June 2023 - Sept 2023

- Optimized the processing of IP log packets in the 5G data layer using C++ for upcoming computer chipsets, lowering chipset memory usage by 20%.
- Improved CPU multithreading capabilities by establishing new locks and semaphores which handled race conditions and prevented new runtime crashes.

SOFTWARE ENGINEER INTERN

June 2022 - Sept 2022

- Worked with 8 customers to develop new features for the Qualcomm Snapdragon computer chip using C++ with benchmarking tools in C# and XAML.
- Achieved 3rd / 153 competitors in Qualcomm's annual 5G hackathon through creating Forestshield, an early wildfire detection tool for first responders.

Leadership & Activities

IEEE - Eta Kappa Nu (HKN)

SOFTWARE TECH LEAD & BOARD OFFICER — WEBSITE / GITHUB

San Diego, CA  
May 2021 - June 2023

- Led a team of 9 software engineers on the development of a member portal used by 1,000+ HKN honor society members across UC San Diego.
- Organized and ran hackathons, ceremonies, and industry recruiting events for university students, student organizations, and companies.
- Streamlined new students inducting into the engineering honor society through conducting technical interviews.

Projects

Archiverse (600,000+ visits / month)

17TB MIIVERSE ARCHIVE — WEBSITE / GITHUB

- Created a complete archive of Miiverse, Nintendo's discontinued social platform which had 8M+ users, 133M+ posts and 216M+ replies, totaling 17TB.
- Built the frontend using React.js and constructed the backend using Express.js and SQL with optimized binary tree indexes for millisecond-level searching.
- Cached server responses into the web browser using Redux, which resulted in 90% fewer API calls due to the data not needing to be fetched again.

Where2Be (2,000+ users)

UNIVERSITY EVENTS MOBILE APP — WEBSITE / GITHUB

- Developed a React Native mobile app which scrapes data across Instagram, Facebook, and Discord and parses them into events for students to join.
- Built a Fast API backend written in Python integrated with a Neo4j database to create an event recommendation system based on student interests.
- Marketed the app to students across UC San Diego, UC Berkeley, USC, and the University of Illinois Urbana-Champaign, resulting in 2,000+ users.

Technical Skills

- Languages: Python, C, C++, JavaScript, TypeScript, Golang, SQL, C#, XAML, Java, HTML, CSS
- Frameworks: Docker, Kubernetes, React.js, React Native, Next.js, Fast API, Node.js, Redux, Expo, Neo4j, OpenCV, TensorFlow
- Techniques: Agile Software Process, Behavior-Driven Development, Design Patterns, Software Engineering Principles