Danny Quang

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EDUCATION

- **University of California, San Diego** — San Diego, California
  MS - Computer Science, BS - Computer Science, GPA: 3.53 — *Expected Graduation: 2026*

WORK EXPERIENCE

- **Software Engineering Intern at Wind River**: June-September 2023   C, Python, Embedded C
  - Ported company's proprietary Real-Time Operating system (VxWorks7) to the Raspberry Pi Zero 2W
  - Designed a pinmux driver from scratch for the GPIO for general purpose ability and various other parts
  - VxWorks7 on the Pi Zero 2W - a commercial low power system - enables customers to run low cost, low power tasks

- **Tutor for UCSD CSE: CSE 110, CSE 29**: March-June 2023, March-June 2024   Javascript, CSS, HTML, C
  - Tutor for CSE 110, Software Engineering: focuses on building a project with front end technologies (HTML, CSS, JS) from the ground up in teams. Teach teams to employ AGILE practices, develop CI/CD pipelines (linter, etc.), and ownership of their roles as backend, Q&A, frontend, etc.
  - Tutor for CSE 29, Intro to Computer Systems: Lead Logistics Team. Focus on systems programming in C, software tools.
  - Attend weekly Supervision/ASE(s) and staff meetings, manage and organize logistics, perform individual and group tutoring, conduct labs, content review and debugging, and Slack support

- **Data Analyst Intern at The Center for Community Energy**: June-October 2022   Python, BeautifulSoup4, HTML
  - Web scraped the market involving V2G data, including multiple car company websites targeting key words

- **Webmaster for American Institute of Aeronautics and Astronautics**: May 2022-November 2023   Javascript, CSS
  - Redesigned, maintained, and updated the website for elected positions and events for AIAA UCSD

PROJECTS

- **Privacy Airtag**: C
  - Developed firmware for STM32 (ARM Cortex M4) board to act like an Airtag. Use Bluetooth Low Energy (BLE) driver to periodically broadcast signals to receiver when stationary for over 1 minute, turn off when moving to protect privacy
  - Detected movement with LSM6DSL accelerometer, wake when there is significant, successive movement
  - Minimized power consumption by 40% by turning off all components when possible except for the accelerometer, and only waking necessary components on significant interrupt events

- **Quadcopter**: C, C++, Arduino, Fusion360
  - Designed schematic and laid out board in Fusion 360, and developed firmware and proportional-integral-derivative (PID) tuning for flight with Arduino
  - Designed firmware to reliably send and receive signals for control (using PID controller) and feedback (filtered inertial measurement unit (IMU) signal)
  - Reduced packet sizes by 30% reordering structs

- **Developed Web Application for Multi-Function Photo-Editing Platform**: JavaScript, CSS, HTML
  - Styled a responsive home, gallery, and edit page with CSS with rotate, brightness, and more
  - Used localStorage in JavaScript and indexDB so users can work locally and store large images and developed unit tests with Jest and end-to-end tests with Puppeteer

- **UC Social Den**: React.js, Express.js
  - Designed a meetup app in React with Node.js that allows UC San Diego students to post and join casual events
  - Used MongoDB and Amazon's S3 to store user data and profile images, along with Google's OAuth2 for login

- **Developed Prediction Algorithm and Visualization for Beer Ratings**: Python, Numpy, matplotlib, sklearn
  - Utilized matplotlib to plot data, pandas to clean and organize data. Used techniques like TF-IDF(TfidfVectorizer()) to represent reviews as a vector
  - Tried different combinations of prediction techniques (e.g. bag of words+linear regression (with train-test splitting the data to train and test model), TF-IDF+SVM+linear regression, etc.)
  - Utilized GridSearchCV to determine optimum parameters to predict rating, and Pipeline to streamline the process

SKILLS

- **Languages**:   Python, Java, C, C++, Assembly, R, Swift, HTML, JavaScript, CSS, Node.js, React, SQL, Golang, Rust, Haskell, React.js, MongoDB
- **Frameworks**:   ScikitLearn, Scipy, Matplotlib, Numpy, Pandas, Tensorflow (Keras), RegEx
- **Tools**:   LaTeX, MATLAB, Vim, GitHub, Jupyter Notebook, VSCode, IntelliJ, UNIX, Git, JUnit, AWS EC2

Relevant Coursework: Graduate Computer Networks, Computer Security, Computer Vision, Databases, Operating Systems, Compilers, Computer Architecture, Advanced Data Structures and Algorithms, Software Engineering, Multivariate Statistical Learning, Representation Learning, Programming Languages, Web Client Languages, Robotic System Design and Implementation