Kyle **Wade**

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Education

University of California, San Diego   *San Diego, CA*

M.S. in Computer Engineering (Machine Learning and Data Science)   *Sept 2023 - March 2025*
B.S. in Computer Engineering   *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, Security, Databases, Cryptography

Work Experience

Juni Learning   *Remote, CA*

Computer Science Instructor   *June 2024 - Present*

- Hosted private competitive programming classes for middle and high school students interested in competing at the USA Computing Olympiad (USACO).
- Taught AI / ML courses with concepts such as k-means clustering, k-nearest neighbors, neural networks, regression, classifiers, graph traversals, and more.
- Received **100% positive feedback** from parents of students who were coached in private one-on-one sessions.

Tesla   *Palo Alto, CA*

Software Engineer Intern   *Jan 2024 - April 2024*

- Optimized Tesla's vehicle diagnosis software, Toolbox, by improving **SQL** database queries and API endpoints which resulted in **20% faster loading times**.
- Used **Python**, **C++**, **React.js**, and **Typescript** to create a **Linux** terminal allowing Service Engineers to safely execute vehicle commands over a websocket.
- Migrated 1 large, centralized service into 2 distributed microservices using **Docker** controlled by **Kubernetes**, which increased Tesla's backend efficiency.
- Built a **Golang** backend which syncs data from 10+ data sources into one centralized AWS S3 bucket, resulting in **30% faster processing** on Tesla's APIs.

UC San Diego   *San Diego, CA*

Machine Learning Researcher @ Mobile Systems Design Lab   *Jan 2022 - Present*

- Developed a **React Native** app in which patients record their physical therapy exercises at home and receive real time feedback using trained ML models.
- Built a **Python** training server which takes in an exercise skeleton via an API endpoint and trains a new model which is used for inferencing on the frontend.
- Deployed the platform to **2 physical therapy clinics** and **50+ patients**, with more trials still ongoing.

Instructional Assistant   *Sept 2021 - Mar 2023*

- Helped **1,400+ students** by hosting lectures, grading exams, giving constructive feedback with programming assignments, and holding discussion sessions in a data structures and algorithms class, teaching **binary search trees**, **linked lists**, **stacks**, **heaps**, **priority queues**, **hashmaps**, and more.
- Received **99% student approval** rating according to UC San Diego's feedback system.

Qualcomm   *San Diego, CA*

Software Engineer Intern   *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)   *San Diego, CA*

Software Tech Lead & Board Officer — Website / GitHub   *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 hundreds of 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**.

UCSD Tickets

Parking Ticket Website Scraper — Website / GitHub / Blog Post

- Reverse engineered UCSD's parking ticket system which led to the creation of a website that tracked the real time locations of parking tickets across campus.
- Used **Python** to web scrape thousands of parking tickets and wrote a blog post documenting my discovery and thought process, reaching **50,000+ views**.

Technical Skills

Languages: Python, C, C++, JavaScript, TypeScript, Golang, SQL, C#, XAML, Java, Swift, HTML, CSS
Frameworks: Docker, Kubernetes, React.js, React Native, Next.js, Fast API, Node.js, Redux, Expo, Neo4j, OpenCV, TensorFlow