Kyle **Wade**

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Education

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

M.S. IN COMPUTER ENGINEERING   *Sept 2023 - June 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, Software Engineering, Fullstack Development, Server Architecture, Databases

Work Experience

Tesla   *Palo Alto, CA*

SOFTWARE ENGINEER INTERN   *Jan 2024 - Mar 2024*

- Made improvements on Tesla's service engineering pipeline by using **React.js**, **Redux**, **Golang**, **SQL**, **Docker**, and **Kubernetes** in an agile environment.
- Optimized **REST API** endpoints and **SQL** database queries which resulted in **60% faster page load** on Tesla's centralized diagnostics software, Toolbox.
- Designed, developed, and implemented **10+ new features** and performed **10+ code reviews** in order to enforce high-quality coding standards.
- Migrated 1 large, centralized service into **2 distributed microservices** using **Docker** controlled by **Kubernetes**, improving Tesla's backend efficiency.

UCSD Computer Science and Engineering Department   *San Diego, CA*

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   *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%**.
- Leveraged **AWS SageMaker** and **AWS QuickSight** to transition the company to choose memory thresholds from trial-and-error to data-driven analysis.
- Optimized thread synchronization through **semaphores** and **locks** to prevent race conditions, deadlock, and starvation across multiple threads.

SOFTWARE ENGINEER INTERN   *June 2022 - Sept 2022*

- Worked with **8 customers** to develop **2 tools** using **C++** and **React.js** which fully implement and demonstrate **5 new Qualcomm Snapdragon features**.
- Enhanced CPU thermal stress-testing by optimizing multithreading and automating tasks through scripting, **increasing product efficiency by 50%**.
- Achieved **top 3** out of **150+ competitors** in Qualcomm's annual 5G hackathon through creating ForestShield (linked in *Projects* section below).

Leadership & Activities

IEEE - Eta Kappa Nu (HKN)   *San Diego, CA*

SOFTWARE DEVELOPER LEAD — WEBSITE / GITHUB   *May 2021 - June 2023*

- Led a team of **9 software engineers** on the development of a member portal used by **450+ HKN honor society members** across UC San Diego.
- Developed a stateful **React.js** frontend displaying a role-specific website where officers can create events for members on a calendar.
- Designed a scalable **PostgreSQL** database holding event and member data while utilizing **REST API** for entity endpoints through an **Express.js** backend.
- Created an authentication flow using **Firebase** to store session tokens on the client, enabling exclusive member sign-in.

Projects

osu! capital (100,000+ users)

QUANTITATIVE OSU! STOCK MARKET — WEBSITE / GITHUB

- Developed a stock market platform in **Next.js** that models osu! player performance statistics as stock prices which users can invest fake currency into.
- Utilized **Golang** for the REST API, **PostgreSQL** for the database, **Redis** for storing user sessions, **Stripe** for payment processing, **Docker** for running microservices, and **Kubernetes** for container management, lowering operation costs from **$300/mo** to **$15/mo** through moving from **Vercel** to **Kubernetes**.
- Marketed the platform through various social media channels, resulting in **100,000+ users** in **2 weeks**.

MarioKartCentral (32,000+ users)

MARIO KART TOURNAMENT HOSTING WEBSITE — WEBSITE / GITHUB

- Worked in a team of **7 developers** and **3 designers** to create a website used to host Mario Kart tournaments for the competitive Mario Kart community.
- Utilized **Docker containerization** and **SQL** to develop a scalable backend for storing secure user data and quickly delivering tournament information.
- Website currently has **32,000+ users** with **200+ high-attendance tournaments** across **5+ years**.

ForestShield (Top 3 Winning Hackathon Project)

WILDFIRE PREVENTION WEB TOOL — HACKATHON PRESENTATION & DEMONSTRATION

- Collaborated with **6 developers** over **72 hours** to create an early wildfire detection tool which shows real-time low-latency wildfire risk in forests.
- Built a scalable system which leverages **IoT sensors**, **5G**, **LoRaWAN**, **Python**, **React.js**, and **machine learning** to send incoming sensor data to a ML model trained by existing forestfire datasets, creating an inference on wildfire severity around deployed sensors to display as a heatmap on the frontend.

Technical Skills

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