

Marcos De La Torre

Software Engineer

UC San Diego B.S. Computer Engineering GPA : 3.2

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Objective

First-generation Software Engineer with hands-on experience in backend systems, data pipelines, and API development. Skilled in Python, Java, and C/C++, with a strong foundation in scalable architecture, CI/CD automation, and cloud technologies. Known for a growth mindset proactive in exhausting resources, seeking feedback, and collaborating to deliver reliable, data-driven systems.

Skills

Frontend: React, React Native (Expo), HTML, CSS, JavaScript, TypeScript

Backend & APIs: Node.js, Flask, RESTful APIs, GraphQL (basic)

Databases & Cloud: SQL/MySQL, MongoDB, Firebase, Docker, Linux, CI/CD (GitHub Actions), Kubernetes (basic)

Programming & Testing: Python, Java, C/C++, Bash, JUnit, Pytest, debugging, scalability optimization

Design & Methodologies: OOD, UML, Agile/Scrum, BDD, design patterns, version control (Git)

AI/ML: TensorFlow, PyTorch, Scikit-Learn, NumPy, OpenAI API

Experience

Southeast Community Development Corporation (SCDC) - Tech Camp Instructor

Jun 2025 - Sept 2025

- Taught 15+ low-income high-school students core concepts in AI/ML, Java, and cybersecurity, connecting technical concepts to real-world applications through project-based learning.
- Led interactive workshops emphasizing creativity, teamwork, and iterative problem-solving, fostering confidence and curiosity in first-time programmers.

UC San Diego - Computer Science Software Engineering Tutor

Dec 2023 - Mar 2025

- Supported 200+ students in debugging and optimizing Android MVC architectures using Agile Scrum and unit/integration testing, increasing build efficiency across ~40 teams.
- Collaborated as a technical reviewer and QA partner to reproduce bugs, validate test coverage, and guide release readiness across diverse codebases.
- Mentored teams on object-oriented design, design patterns, UML, and BDD methodologies to enhance maintainability, documentation, and collaboration.

UC San Diego - Embedded Systems Researcher

Feb 2025 - Jun 2025

- Designed a microcontroller-driven thermal control system integrating H-bridge motor drivers and temperature sensors to achieve bidirectional heating and cooling for medical and haptic applications.
- Characterized thermal response, signal integrity, and latency using LabVIEW, oscilloscopes, and multimeters, improving stability by ~30% during sustained operation.

Projects

PantryPal - Team Lead Developer

Sept 2023 - Mar 2024

- Integrated ChatGPT and Whisper API for recipe generation and voice transcription, optimizing delivery with real-time streaming responses that rendered text incrementally to reduce latency and enhance interactivity.
- Architected a MongoDB backend for scalable recipe retrieval, containerized deployments with Docker, and automated testing and CI/CD pipelines using JUnit and GitHub Actions to maintain build stability across environments.
- Managed sprints and issue tracking in Jira and coordinated development through Discord to sustain delivery velocity.

Jack Donuts Rewards App - Freelance Developer

April 2025 - Current

- Developed a cross-platform mobile rewards application using **React Native** (Expo), Firebase Authentication, and Firestore for secure points tracking. Built internal admin tools for staff to process refund cases and send push notifications for promotions.
- Implemented a scalable leaderboard system with rate-limited and indexed queries to minimize read costs and prevent abuse under growing user traffic.
- Prototyped offline sync capability allowing staff to locally log transactions via CSV during outages, ensuring data integrity and reconciliation once online.
- Developed admin tools to handle refunds and deliver push notifications for promotions.

Awards: FIRST Robotics Team 687 *The Nerd Herd*: Innovation in Control Award (2019), Autonomous Award (2019), Regional Finalist (2018), Quality Award (2021)