

ALEJANDRO SANCHEZ RUBIO

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🐙 github.com/SuperBons

Summary

Systems Engineering professional specializing in autonomous vehicle diagnostics and L4 deployment infrastructure. Proven track record of bridging the gap between software reliability and hardware performance in extreme environmental conditions.

Education

University of California, Merced

Bachelor of Science in Computer Science and Engineering

Graduated May 2025

Merced, CA

Relevant Coursework

- Database Systems Impl.
- Data Structures
- Artificial Intelligence
- Computer Organization
- Operating Systems
- Compiler Construction
- Discrete Mathematics
- Probability & Statistics
- Algorithm Design
- Software Engineering
- Circuit Theory
- Database Systems

Experience

Waymo Via Transdev

June 2025 – Present

Systems Engineering Test Conductor

Atwater, CA

- Executed high-priority thermal diagnostics alongside Waymo senior and staff engineers to pinpoint an ECU fault impacting ten percent of the fleet, then ran rigorous regression testing on new ECUs to validate system stability.
- Conducted structured thermal load scenarios across varied environmental conditions to evaluate cooling efficiency and validate hardware design improvements.
- Assisted with core engineering to develop and validate latent fault checks for new platform architectures, analyzing CAN and FlexRay signal data to isolate system anomalies and enforce strict operational tolerances.
- Advanced depot automation initiatives by testing ADV charging workflows and sleep-state routines, utilizing system dashboards to identify and isolate operational bugs.
- Analyzed collision avoidance simulations to validate non-ADV dynamic agent behaviors, ensuring surrounding actor trajectories remain within physical limits.
- Validated and qualified new software and firmware builds for production release, executing critical go/no-go testing to ensure systems are safe for public roads.
- Troubleshoot complex hardware-software interface faults in the field using command-line diagnostics to identify root causes and minimize vehicle downtime.
- Generated detailed logs and bug reports for software engineering teams, documenting disengagements, latency, and hardware anomalies.

x10e

Aug 2024 – Jan 2025

Software Engineer Intern

Mountain View, CA

- Designed and implemented a retrieval-augmented generation (RAG) pipeline for an LLM analyzing real-time molecular data from a wearable arm patch.
- Engineered Python data pipelines to ingest and enrich bloodstream molecule metrics, ensuring accurate model prompts.
- Built full-stack features with React, SCSS, Flask, and Express.js to visualize biomarker trends and deliver actionable health insights.

Conectado

May 2025 – July 2025

Software Engineer Intern

Remote

- Developed AI web scrapers with Firecrawl to auto-ingest jobs into Firebase, boosting listings by 30%.
- Built the “Digital AI Backpack” app using Firebase, Node.js, React, and Genkit for data management.
- Optimized the scraper pipeline architecture—cutting runtime by 40% and error rates by 15%—to ensure reliable data collection.

CITRIS and the Banatao Institute

2024 – July 2025

Web Developer & Educational Robotics Intern

Merced, CA

- Contributed to a large-scale enterprise wexb application (400,000+ lines of code) serving campus initiatives, leveraging HTML/CSS and jQuery to optimize UI responsiveness.
- Designed K-12 STEM curriculum and technical modules on Python, NexTech robotics, and CoDrone UAVs.

Technical Skills

Languages/Frameworks: Python, C/C++, Java, JavaScript, SQL, HTML/CSS, React, Node.js, Flask, Express.js

Developer Tools: Linux, VS Code, JetBrains, GitHub, Docker, System Dashboards

Hardware & Systems: CAN/FlexRay Telemetry, OBD-II Diagnostics, Microcontrollers

Technologies: Firebase, Firecrawl, Genkit, LangChain, SQLAlchemy, WordPress