

Alex Palecki

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PROFESSIONAL SUMMARY

Computer Engineering student at UC San Diego with hands-on hardware-software experience: RTL design/verification in SystemVerilog, embedded C/C++ on STM32 and ESP32, and systems-level debugging, from leading a robotics team through live competition fixes to building embedded and network tools in C++, Python, and Flask.

EXPERIENCE

SD-Bytes

June 2024 - June 2025

Hardware & Systems Technician Intern

San Diego, CA

- Diagnosed and repaired laptops, desktops, and embedded devices across hardware and software layers, cutting turnaround to same-day for common repairs
- Traced power rails on PCBs with multimeter probes, then applied schematic knowledge and soldering to isolate and rework failed components
- Performed system-level recovery: BIOS configuration, OS reinstallation, virus removal, and drive cloning
- Maintained detailed repair logs tracking diagnostics, resolutions, and system performance to support quality assurance

PiWars Robotics Competition

March 2023 - May 2023

Lead Developer / PM

San Diego, CA

- Wrote Python control software for sensor integration, motor control, and autonomous behavior on a Raspberry Pi 4-powered robot, diagnosing hardware-software integration issues live during competition runs
- Led a team building the robot from scratch, managing milestones and testing cycles to meet deadlines

PROJECTS

IoT Temperature Monitor for Remote Pet Care

In Progress

Prototyping an ESP32 sensor on breadboard with a WiFi mobile-notification pipeline for unsafe temperature thresholds; STM32F407 planned as the production platform.

Network Traffic Monitoring Tool

In Progress

Building a C++ engine that captures live network traffic via Npcap into SQLite, with a Flask dashboard displaying network activity in the browser.

EDUCATION

B.S. Computer Engineering [University of California, San Diego \(UCSD\)](#)

Expected June 2028

Major GPA (upper-division): 4.0. Coursework: CSE 140 (Digital Systems Design: RTL/SystemVerilog), CSE 141 (Computer Architecture, in progress), CSE 30 (Computer Organization, C/ARMv6).

TECHNICAL SKILLS

Programming Languages: C, C++, Embedded C, Java, Python, ARMv6 Assembly, Bash/Shell, SQL

Embedded Systems & HDL: STM32F407, ESP32, Raspberry Pi 4, STM32CubeIDE, Embedded Linux, SystemVerilog (RTL, testbench verification)

Frameworks & Tools: React, Git/GitHub, GDB, KiCAD, Npcap, Flask, SQLite, Docker, GTKWave

Diagnostics, Lab & OS: Multimeter, PCB fault tracing, soldering & rework, BIOS configuration, Rocky/Debian/Linux Mint, Windows