

ZAID OMAR

Rancho Cucamonga, CA

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Summary

Motivated computer engineering student with a strong foundation in embedded systems, real-time communication, and industrial automation. Skilled in microcontrollers, embedded Linux, and hardware/software integration. Passionate about developing reliable low-level solutions using C, Verilog, and ladder logic to automate and optimize control systems.

Education

California State Polytechnic University, Pomona

Pomona, CA

Bachelor of Science – Computer Engineering

August 2022 - May 2025

- OVR GPA: 3.55
- CPP GPA: 3.79
- Honors: Dean's List (Fall 2024, Spring 2024, Fall 2023, Spring 2023, Fall 2022), President's List (Spring 2023, Spring 2024)
- Relevant course work: Circuit Analysis I, II, and III, Operating Systems for Embedded Applications, Data Structures and Algorithms, Statistics for ECE, Digital Circuit Design Verilog, Introduction to Microcontrollers, Introduction to Microelectronics, Digital Logic Design, Computer Architecture, SystemVerilog, VLSI Circuit Design, Control Systems Engineering.

Skills

- Programming/Scripting:** C, C++, C#, Python, PLC Ladder Logic.
- Hardware Design/Simulation:** Verilog, SystemVerilog, Vivado, PSpice, Altium Designer, LogixPro, ModRsim2.
- Embedded/Control Systems:** Embedded Systems Design, FPGAs, Microcontrollers, Modbus RTU/TCP, F' (F Prime).
- Tools/Platforms:** Ubuntu, Linux.
- Soft Skills:** Communication, Team Collaboration, Debugging, Customer Service.
- Lab Equipments:** Logic Analyzers, Oscilloscopes, Power Supplies, Function Generators, Multimeters.

Projects

Lightweight Cryptography

Pomona, CA

California State Polytechnic University, Pomona

January 2025 - May 2025

- Designed and implemented a WiFi-based encrypted communication system between a UGV (mobile ground station) and a UAV (user-controlled drone).
- Developed a custom F' (F Prime) communication component using Boost.Asio for asynchronous UDP packet transmission.
- Engineered and tested secure real-time data transmission over Wi-Fi.

PLC Projects (Ladder Logic Simulation – LogixPro)

Pomona, CA

Independent Projects

February 2025 – April 2025

- Designed and simulated multiple control systems using ladder logic for industrial automation scenarios.
- **Water Tank Control System:** Automated tank level monitoring using float switches and valve logic; implemented fill/drain cycles with timers and comparators.
- **Traffic Light Control System:** Developed a state-sequenced traffic light using timers and logical transitions to simulate real-world intersections.
- **Garage Door Opener System:** Built an interlocked motor system with open/close logic, position-based limit switches, and a manual force-stop button for user safety.

Experience

Safeway

Amman, Jordan

Cashier

June 2017 - December 2017

- Operated cash register and handled cash and card transactions.
- Provided efficient customer service in a busy retail environment.
- Assisted with store organization and inventory restocking.

Prime Cinema

Amman, Jordan

Usher

January 2018 – May 2018

- Guided guests to seats and maintained order during screenings.
- Provided customer assistance and answered inquiries.