

# Dominic K. Olson

[domkolson@gmail.com](mailto:domkolson@gmail.com) | [linkedin.com/in/domkolson](https://www.linkedin.com/in/domkolson) | [domkolson.com](https://www.domkolson.com) | Los Angeles, CA

## EDUCATION

### University of California, Los Angeles (UCLA)

Master of Science, Electrical and Computer Engineering 09/2024 - expected 03/2026

Bachelor of Science, Electrical Engineering; GPA 3.95; *magna cum laude* 09/2020 - 03/2024

Relevant Coursework: Wireless Communications, Convex Optimization, Stochastic Processes, Deep Learning, Estimation Theory, Signal Processing, Controls, RF Systems, Antennas, Computer Architecture, Analog Circuits

## EXPERIENCE

**Qualcomm | Modem Machine Learning Firmware Intern** 06/2025 - present

- Prototyped runtime features for resource-constrained AI-powered modems

**Wireless Lab at UCLA | Graduate Researcher** (PI: Ian Roberts, PhD) 01/2025 - present

- Researched novel techniques for millimeter-wave MIMO wireless systems with hardware impairments
- Developed wireless system testbed with millimeter wave phased arrays and software-defined radios

**UCLA ECE | Teaching Assistant for Embedded DSP & ML, Intro to EE** 09/2024 - present

- Led labs and projects for signal processing design capstone course and introductory EE course

**NVIDIA | Tegra Systems Software Intern** 06/2024 - 09/2024

- Worked on embedded software and tools for safety and security features on autonomous vehicles
- Profiled algorithms on RISC-V core, automated static analysis fixing with scripting and generative AI

**Nuro | Radar Signal Processing Software Engineering Intern** 06/2022 - 09/2022; 06/2023 - 09/2023

- Developed features to log and process radar data on autonomous delivery vehicles in C and C++
- Improved radar performance by researching, implementing and evaluating detection algorithms
- Boosted execution speed for the radar signal processing pipeline and for raw data collection
- Created interactive Python tools to calculate and visualize range, velocity, and azimuth from radar data

**Digital Microwave Lab at UCLA | Undergraduate Researcher** (PI: Y. E. Wang, PhD) 01/2023 - 06/2024

- Developed low noise receivers with broadband noise matching for electrically small antennas
- Designed and simulated amplifiers with Keysight ADS, tested with tools including network analyzer

**IEEE at UCLA | R&D Lead, Projects and Lab Manager, Micromouse Project Lead** 05/2021 - 05/2024

- Managed electronics lab space, placed parts orders, mentored student projects, and reviewed designs
- Taught 70+ students PCB design, embedded programming, control algorithms, sensors, SMD soldering
- Hosted work sessions, lectures, trainings, and lab hours to assist club members and officers

## PROJECTS

**Wireless Communication System | IEEE at UCLA WRAP Hardware and DSP Team Member** 10/2022 - 06/2024

- Simulated BPSK communication system with PLL, timing recovery, and packet detection in MATLAB
- Wrote embedded software in C to implement the system on a pair of STM32 microcontrollers
- Designed amplifiers, oscillators, mixers, and filters, simulated in LTSpice, assembled and tested boards

**Micromouse | Autonomous maze-solving robot, first place at IEEE at UCLA's competition** 10/2020 - 05/2021

- Designed system with custom circuit boards for motor control, IR sensing, gyroscope
- Implemented PID control and the Floodfill maze solving algorithm in C on an STM32 microcontroller

## SKILLS

Languages & Software: C, C++, Python, MATLAB, SystemVerilog, PyTorch, CUDA, Bash, ADS, LTSpice, KiCAD

Tools: Software-Defined Radio, Oscilloscope, Vector Network Analyzer, Spectrum Analyzer, Logic Analyzer