Dominic K. Olson

domkolson@gmail.com | (650) 701-5763 | linkedin.com/in/domkolson | domkolson.com | Los Angeles, CA

EDUCATION

University of California, Los Angeles (UCLA)

Master of Science, Electrical and Computer Engineering *09/2024 - expected 06/2025*

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

Relevant Coursework: Signal Processing, Communication Systems, Neural Networks, Machine Learning, Control Systems, RF Systems, Antennas, Computer Architecture, Analog Circuits, Digital Design, Data Structures

EXPERIENCE

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

- Working on embedded software and tools for safety and security features on autonomous vehicles

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

- Developed features for logging and processing data from radars on autonomous delivery vehicles
- 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 tools to calculate and visualize range, velocity, and azimuth from radar data
- Wrote firmware in C, onboard software in C++, and utilities in C++ and Python

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 lab space including electronic components and tools, placed parts orders
- Doubled the size of the Student Project Initiative program, mentoring students' personal projects
- Assisted in developing projects, provided feedback on hardware designs and curriculum
- Taught 70+ students PCB design, embedded programming, control algorithms, sensors, SMD soldering
- Created a sample Micromouse PCB and reviewed schematics and board layouts for 20 PCBs
- 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*

- Designed amplifiers, oscillators, mixers, and filters, simulated in LTSpice, assembled and tested PCBs
- 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.

Micromouse | Collaborated with a partner to create small autonomous maze-solving robot *10/2020 - 05/2021*

- Designed, manufactured, and soldered breakout PCBs for motor control and IR sensing
- Implemented PID control and the Floodfill maze solving algorithm in C on an STM32 microcontroller
- Improved the Micromouse by adding a gyroscope and bluetooth module
- Won first place at IEEE at UCLA's All America Micromouse Competition in May 2021

Treasure Tracker | Compass that points to coordinates set by the user, first place at IDEA Hacks 2022 *01/2022*

- Wrote code to control servo motors and interface a microcontroller with a GPS module and 9-DoF IMU
- Designed hardware, assembled physical prototype, collaborated with an interdisciplinary team

SKILLS

C | C++ | Microcontrollers | Python | MATLAB | ADS | LTSpice | SystemVerilog | Git | Linux | PCB Design