

Dominic K. Olson

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EDUCATION

University of California, Los Angeles (UCLA) B. S. Electrical Engineering, GPA 3.97 10/2020 - 06/2024

Relevant Coursework: Digital Signal Processing, Circuits, Digital Logic Design, Electromagnetics, Data Structures, Computer Organization, IoT Design, Semiconductors, Probability & Statistics, Interactive Systems

EXPERIENCE

Nuro | Radar Software Engineering Intern 06/2022 - 09/2022

- Developed features for datapath to output and log data from radars on autonomous delivery vehicles
- Increased raw data collection speed to evaluate radar hardware and signal processing algorithms
- Created interactive tools to calculate and visualize range, velocity, and angle of arrival from radar data
- Wrote firmware in C, onboard software in C++, and utilities in C++ and Python

IEEE AT UCLA | Projects and Lab Manager, 05/2022 - present; Micromouse Lead, 05/2021 - 05/2022

- Managed lab space including electronic components and tools, placed parts orders
- Assisted in developing projects and workshops, 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

Micromouse | Remote collaboration to create a 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
- Prototyped and soldered circuit and collaborated with an interdisciplinary team

Digital Audio Visualizer | Real-time sound spectrum visualizer on Altera FPGA 10/2021 - 05/2022

- Designed and tested modules in SystemVerilog for Fast Fourier Transform and VGA controller
- Completed projects while learning programmable logic design: alarm clock, stopwatch, calculator

Budgie | Wireless shaker rhythm game for music education, BruinLabs Honorable Mention 06/2021 - 08/2021

- Made circuit to drive vibration motors and LEDs and connect different components
- Developed embedded code to process gyro data and send to phone using Bluetooth Low Energy
- Collaborated remotely with a team and assembled and tested physical prototype

Line Following Car | Completed path fastest out of 107 Intro to EE students 05/2021 - 06/2021

- Implemented IR sensor fusion and PID control to program a small robot car to follow a curved path
- Improved a C++ library to use quadrature encoders to distinguish forward and backward motor rotation

UCLA ACM Teach LA | Instructor and Curriculum Developer 10/2020 - 06/2021

- Planned curriculum and taught Python at middle schools in Los Angeles

SKILLS

Microcontrollers | C | C++ | Python | PCB Design | SystemVerilog | MATLAB | Breadboarding | Git