

EDUCATION

University of California, Los Angeles (UCLA) – Henry Samueli School of Engineering **September 2017 – December 2022**
• M.S. in Electrical and Computer Engineering – *Control Systems and Optimization Track* (GPA: 3.78) **December 9, 2022**
• B.S. in Electrical Engineering (GPA: 3.81 – Cum Laude) **June 11, 2021**

SKILLS

Embedded Systems	Arduino, Attiny85, Raspberry Pi, STM32 Microcontrollers, Pozyx platform (UWB positioning)
Programming Language	Python, C++, MATLAB (Advanced), Shell, Tcl/Tk, BASIC (Intermediate), Java, HTML, CSS (Beginner)
Libraries	ROS2, OpenCV, NumPy, SciPy, p5.js, openFrameworks (opensource C++ toolkit for creative coding)
Engineering Software	Simulink, Simscape Multibody, MATLAB App Designer Autodesk Fusion 360, Solidworks, Onshape Altium Designer, Autodesk EAGLE, KiCAD, LTspice Git, GrabCAD STM32CubeIDE, Arm® Mbed, Webots
Manufacturing	THT and SMD Soldering, FDM and SLA 3D Printing, Laser Cutting, 3DoF CNC Machining

ORGANIZATIONS AND AWARDS

UCLA Eta Kappa Nu (HKN) – Iota Gamma Chapter **Fall 2020 – Present**
Dean's Honors List **Spring 2018, Winter 2019, Fall 2019, Winter 2020, Spring 2020, Spring 2021**

TECHNICAL EXPERIENCE

Test Engineer – Motiv Space Systems, Inc. **September 2023 – February 2024**
• Designed, assembled, and tested an universal auxiliary box used to automate flight hardware testing across multiple programs:
• Expected to reduce flight motor controller board testing times down from multiple days to several minutes
– Double-stacked 4 layer PCBs with dimensions 16"x13"; full black-ionized aluminum rack-mount enclosure with 15 status LEDs
– Implemented OVP across HV rails by designing a crowbar circuit using a LM431 shunt regulator to detect the over voltage event
– Individually tuned a cascaded series of BJTs to safely trigger a TRIAC which shorted a fuse within a predefined trigger time
– All circuits were simulated in advance using LTSpice and further tested on actual hardware before delivery

Electrical Engineering Intern – Motiv Space Systems, Inc. **April 2023 – September 2023**
• Verified functionality of a custom motor control board for a moon rover program through multiple levels of rigorous testing
– Designed a hall states emulator circuit used during burn-in testing to mimic a BLDC motor's behavior during closed-loop drive
– Carried out design verification testing inside the cleanroom and documented safe to mates, acceptance test procedures, etc.

Garama RC Car Platform Research Project – Robotics and Mechanisms Laboratory (RoMeLa) **Summer 2022 – Winter 2022**
• Assisted a PhD student with fabrication and data collection of a new 1/28th scale RC racing car platform developed to outperform a world champion class driver by utilizing behavior cloning and flow prediction to compensate for oversteering

Makerspace Staff – UCLA Boelter Innovation Lab **Fall 2021 – Winter 2022**
• Staffed for 10 hours/week maintaining the Makerspace and helping students use tools such as 3D printers and laser cutters

SCALER Research Project – Robotics and Mechanisms Laboratory (RoMeLa) **Summer 2021 – Winter 2022**
• Worked under Prof. Dennis Hong and several PhD students to develop SCALER (Spine Enhanced Climbing Autonomous Legged Exploration Robot), mainly contributing to helping the reliability issues with the hardware electronics and developing software for controlling the under-actuated whiplike mechanism spine gripper
– Redesigned both the hardware and firmware for an automated test bed used to collect data on the gripper's performance
– Wrote a MATLAB visualization script that computes the FK of the SCALER model from actuator angles and creates a 3D figure
– Designed a standalone gripper module that sends and retrieves current actuator states from the onboard STM32 board

NIRS Research Project – Interconnected & Integrated Bioelectronics Lab (I²BL) **Spring 2020 – Spring 2021**
• Assessed and designed the electrical schematic for a near IR spectroscopy system for lower leg tissue oxygenation monitoring

Optoprobe Research Project – Dunn Lab **Fall 2019 – Winter 2022**
• Developed a Bluetooth-enabled optoprobe that can send two-channel optical stimuli to various parts of a living mouse's brain

EXTRACURRICULAR PROJECTS

AAMC Micromouse Robot – Institute of Electrical and Electronics Engineers (IEEE) **October 2018 – March 2020**
• Designed and manufactured an autonomous maze solving robot that competed in the 2019 All American Micromouse Competition (AAMC) at UCLA, earning 5th place out of 13 other participating teams coming from other universities in the region

BotW Guardian Hexapod Robot – American Society of Mechanical Engineers (ASME) X1 Robotics **October 2018 – September 2021**
• Led the Electrical and Targeting subsystems, where I oversaw a team of around 3-6 undergraduates from various majors
– Assigned specific research tasks and relayed information from the leads meeting, but also designed the overall robot's system architecture alongside other subsystem leads and selected electrical components used in the project
• Created a hexapod animatronic of the "Guardian" from the *Legend of Zelda BotW* video game that relied on a Raspberry Pi master-slave architecture to combine the multiple subsystems such as the legs and laser turret to mimic its in-game motion