

# Marco Ebeling

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## EDUCATION

University of Southern California, Los Angeles, California

May 2025

**Bachelor of Science in Electrical and Computer Engineering**, GPA: 3.95

## SKILLS

- MATLAB, C/C++, Python, LTSpice, SolidWorks

## PROJECTS

### Current Stimulation Circuit

Fall 2022-Present

- Design a neurostimulation circuit to supply current to a rat's optical nerve with a programmable interface time
- Program Arduino to control the length and magnitude of the interface time
- Collaborate with researchers at Keck School of Medicine to test the hardware in vivo

### Lunar Entry and Approach Platform For Research On Ground (LEAPFROG)

September 2021-May 2022

- Created various mechanical components, including electronic housing unit, fuel tank cap, and altitude control system cover, using SolidWorks to reduce the weight of the lander by 20%
- 3D printed and assembled the CAD designs on the lander
- Executed a static test to collect flight data and test new hardware and software

### Autonomous Car

Fall 2021

- Assembled a circuit with a 3-volt power supply to power a gyroscope, Arduino, relay module, and motor by using a 5-volt boost converter and capacitors
- Programmed the Arduino to control the motor of the autonomous car through analyzing data collected from the gyroscope

## EXPERIENCE

### Analog/RF Circuits, Microsystems, and Electromagnetics Laboratory

Los Angeles, California

*Student Researcher*

September 2022-Present

- Design circuits to stimulate the optic nerve of rats

### Oakleaf Surgical Hospital

Eau Claire, Wisconsin

*Student Observer*

June 2022-August 2022

- Administered care and supervision for patients experiencing ankle, knee, and hip pain in clinic
- Observed surgery to learn about the artificial intelligence used to analyze live imaging

### Space Engineering Research Center

Los Angeles, California

*Research Assistant*

September 2021-May 2022

- Designed and constructed mechanical hardware for the LEAPFROG project to reduce its weight by 20%
- Conducted static flight tests to gather data and test new hardware

### Memorial High School

Eau Claire, Wisconsin

*Summer Building Administration*

June 2021-July 2021

- Collaborated with school administration to maintain a safe learning environment for 200+ students
- Guided and worked closely with at-risk students to ensure their success throughout the summer semester

## INVOLVEMENT

### USC Club Basketball

*Team Captain and Creative Director*

Fall 2022-Present

- Guide the team during competitions against teams from across the nation
- Manage the Club Basketball Social Media Pages and create infographics for events

### USC Women's Varsity Practice Player

Fall 2022-Present

- Prepare the Women's varsity basketball team to play multiple opponents each week
- Learn the scout plays quickly to practice against the Women's varsity basketball team

### USC Integration Bee

Spring 2022

- Placed 9<sup>th</sup> out of 91 participants
- Instituted creative techniques to solve a plethora of unique and creatively to solve a number of unique and complex integration problems in a limited amount of time