Student Branch at UCLA

IEEE

Advancing Technology for Humanity

Boelter Hall 2825
420 Westwood Plaza
Los Angeles, CA 90095

ieeebruins.com
President: Theo Zhang
president@ieeebruins.com

Sponsorship Brochure

Table of Contents

Overview

As the student chapter of the Institute of Electrical and Electronics Engineers at UCLA, we believe in shaping engineers that solve problems for humanity. We help create better engineers by giving them the opportunity to gain hands-on experiences, a network of close-knit electrical engineering and computer science majors, and an opportunity for communication when working in teams on collaborative projects. Membership in each of our programs is increasing across the board, making space and funding a concern for us to continue to accept engineers into our projects-focused organization. We are also continually looking to increase resources for our projects and put on more workshops and networking events such as company tours. In addition to our academic and professional focuses, we build and maintain a strong community of learning, a goal that could not be achieved without the gracious donations we receive from our supporters.

Open Project Space

Open Project Space (OPS) is an introductory year-long program designed to provide its members with hands-on electrical engineering experiences. The curriculum consists of a series of lectures covering topics such as breadboarding, programming, communications, PID control, and many more.
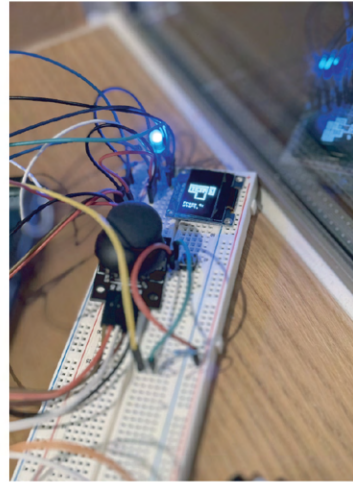

OPS also offers a variety of Arduino-based projects to help students deepen their understanding of lecture material, as well as to prepare them for other programs offered through IEEE, such as Micromouse and Digital Audio Visualizer (DAV). Recently, OPS has received around 100 applicants yearly. However, due to financial and space constraints, we are able to accept only a fraction of applicants. Additional funding would allow us to secure more space and accept more students into the OPS program.
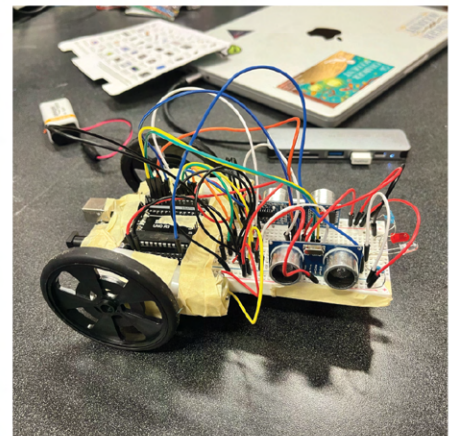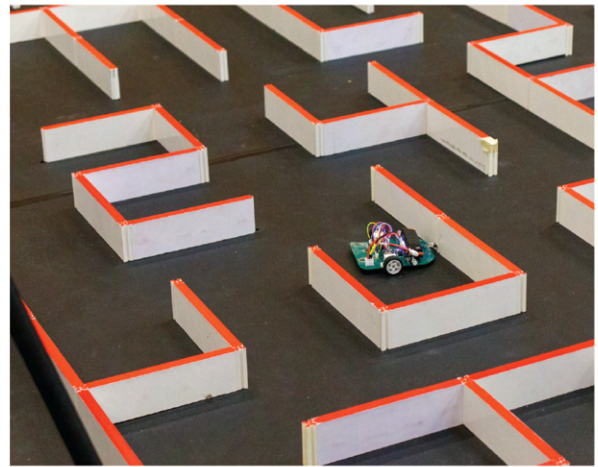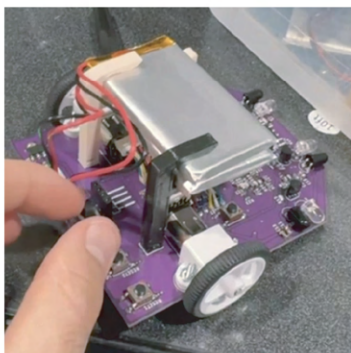
Micromouse

IEEE at UCLA's longest-established advanced project, Micromouse, challenges students to develop their skills in circuit design, sensor data acquisition, signal processing, control systems, and algorithms in order to create a maze-solving robot. Over the school year, teams design, build, and program small autonomous robots and use them to navigate and solve a 16x16 cell maze. Teams compete for the fastest time by combining search and speed runs.

We hold the All-America Micromouse Competition (AAMC) at UCLA every year. Schools from around the country including UCSD, UChicago, ASU, UCI, and others compete alongside UCLA students to solve the maze in the fastest time possible. Student mentorship and returning member participation were successful this past year and will be instrumental in the coming year(s). Additional funding would allow us to accept more students and allow them to experiment with more advanced sensors and parts.

Pocket Racers

Pocket Racers is a project that provides a hands-on introduction to how computers see and react to the world around them. Students develop skills in high-demand fields such as computer vision and machine learning by building a fully autonomous self-driving car using Raspberry Pis, Python, and OpenCV. By the end of the project, students will have built a car that can perceive and respond to environmental stimuli such as paper road signs, racetrack walls, and other obstacles. Additional funding will allow us to increase the capacity of the project, as well as fund hardware and R&D efforts for a more advanced machine learning track.
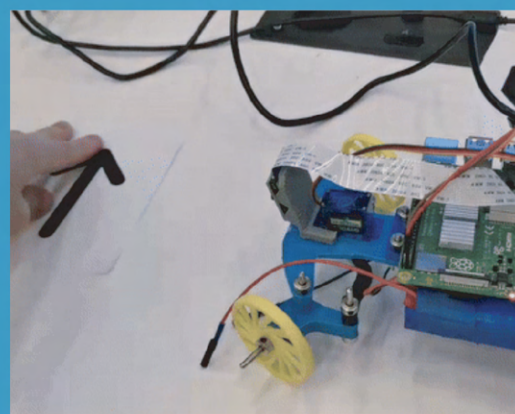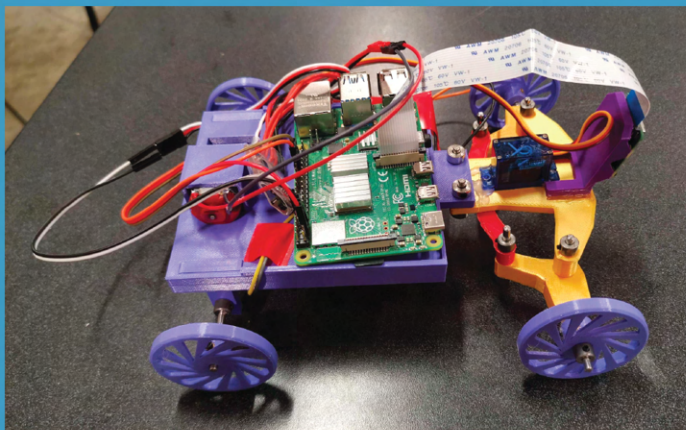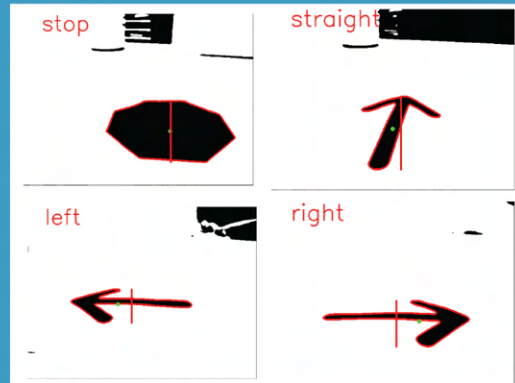
DAV

Digital Audio Visualizer & Digital Design, Architecture, and Verification

DAV provides students with a solid understanding of the field of chip design. Through immersive, hands-on experiences, they gain deep insights into the principles and practices underlying digital design and verification. Members will learn about digital logic concepts including digital signal processing techniques, serial communication protocols, and the FPGA design process.
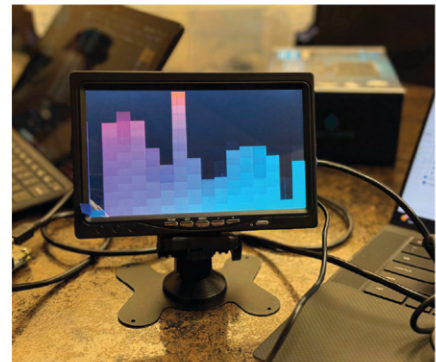
DAV offers students two tracks. The original track, Digital Audio Visualizer, requires members to interface their FPGA with a microphone and perform the Fast Fourier Transform (FFT) to create a histogram of frequencies. In the second track, Digital Design, Architecture, and Verification, members create a game on the FPGA. Members will learn about serial communication protocols like I2C to achieve communication between their FPGA and a peripheral game controller.
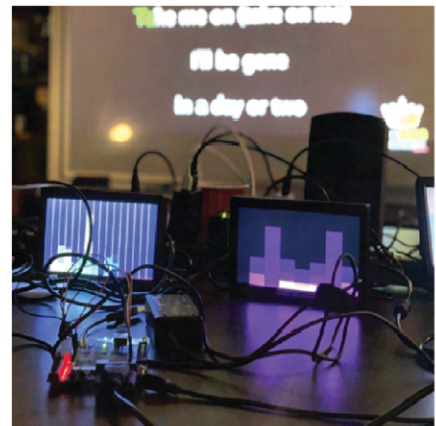

DAV has continued to receive more and more interest, especially with the addition of the second track. Further funding would allow the acceptance of more students into the project, as well as opportunities for students to experiment with incorporating different peripheral controllers into their projects.

Wireless, RF, and Analog Project

WRAP is an advanced project focused on wireless digital communications and RF circuits. WRAP teaches students a variety of circuits topics used in wireless transmitter and receiver design, including amplifiers, mixers, and oscillators. On the signal processing side, WRAP covers the fundamentals of digital communication, digital filtering, and other techniques used in real world communication systems. As the year progresses, students will use this knowledge to design, build, and test a physical wireless communication system. Further funding would allow us to support more students and acquire more advanced hardware for signal processing.
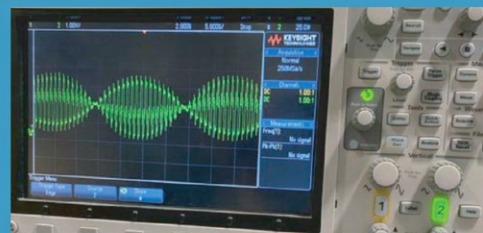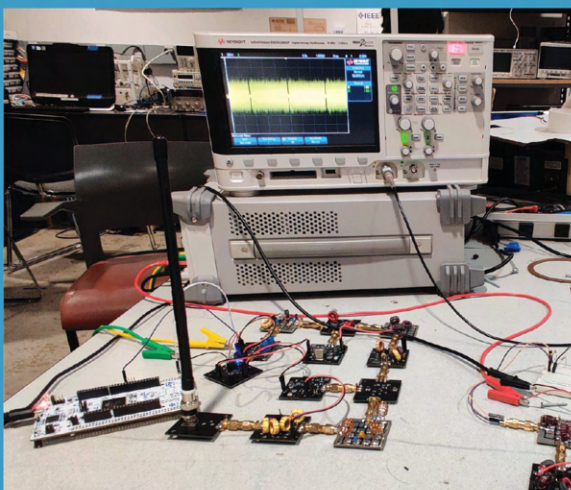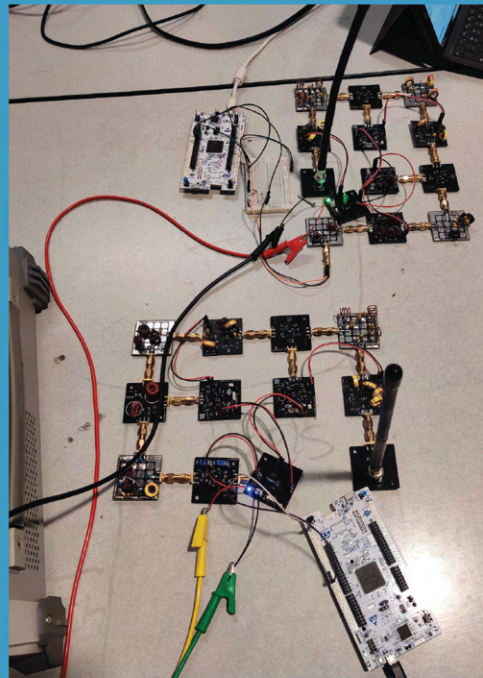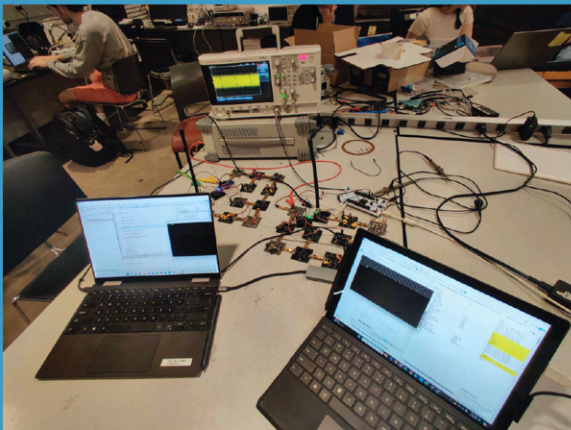
Student Project Initiative

Aside from the five major projects that have been established projects in IEEE at UCLA, there is another opportunity for students to obtain hands-on experience with the Student Project Initiative (SPI). SPI encourages students to pursue their own project ideas by providing tools, funding, mentorship, and the freedom to follow their curiosity.

Some past SPI projects include an FMCW radar, a Tesla Coil, Power Converters, and many more, with students designing and building their projects from scratch. Additional funding would directly allow us to support more students and support larger, more advanced projects.
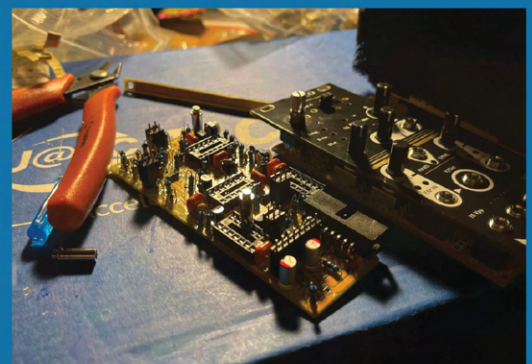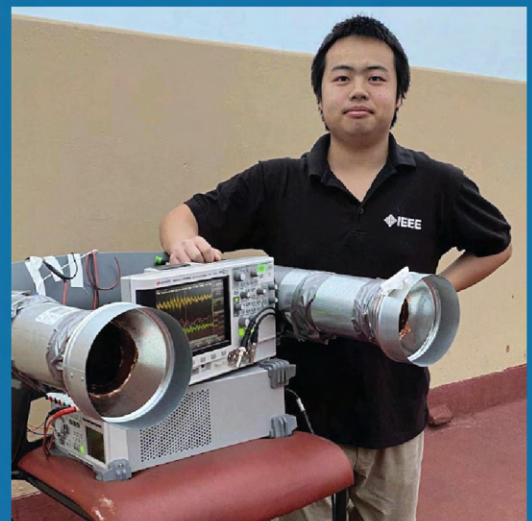
Workshops

IEEE at UCLA hosts a series of workshops every year, open to all UCLA students, regardless of major or experience level. Each workshop focuses on a particular skill related to the field of electrical engineering and consists of a short lecture and a hands-on activity. These workshops cover topics such as PCB design, soldering, test equipment, and advanced microcontroller programming. Participants are encouraged to interact with one another during the activity and keep their finished projects. Better funding would allow us to R&D more workshops and support a wider network of students, including those outside of UCLA!
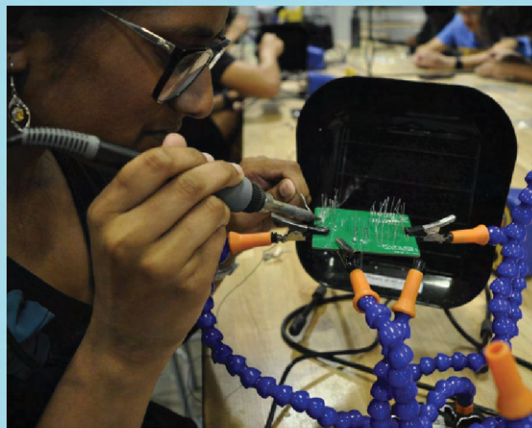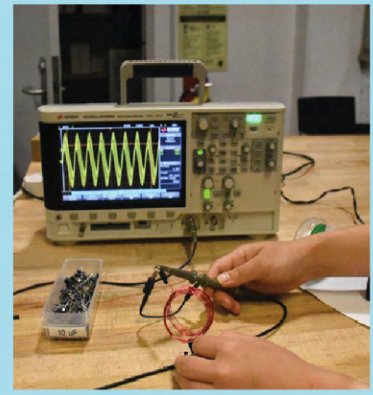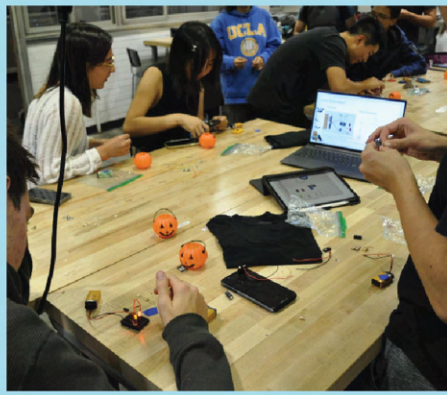
IDEA ⚙ HACKS

For the eleventh time, IEEE at UCLA proudly presents IDEA Hacks, the largest hardware hackathon on the West Coast! This unique event welcomes students from all schools and majors, providing an extraordinary opportunity to innovate and collaborate over the course of 36 hours. Our hackers receive all the tools they need, including 3D printers, soldering stations, equipment, and hardware, completely free of charge. Plus, we offer free food (and snacks!) throughout the event to keep our participants energized and focused.

Last year, more than 250 hackers participated, showcasing an increasing interest in our hackathon. Whether they are aiming to create something advanced or simply having fun with hardware, our participants integrate both code and hardware to develop impactful and tangible products from scratch.

IDEA Hacks thrives on the generous support of our corporate sponsors. In the past, we've been fortunate to receive support from companies such as *DigiKey, Northrop Grumman, Texas Instruments, Optiver,* and *Infineon*! We have many opportunities for hacker engagement and recruitment during the event, offering tabling, workshops, branding, and much more to our partners.

For any questions or sponsorship inquiries, please contact us at corporate@ieeebruins.com.

Work Hard, Play Hard

FamilIEEEs

FamilIEEEs is our group mentorship program. Every year, members of our officer board choose to lead a group of 5-7 general members for the rest of the academic year. Each group decides on a set of focuses for their group, chosen among academic support, officer shadowing, or professional development. In addition, members of each group get first-hand experience learning what it is like to be an officer for this organization, motivating them to pursue higher club involvement in the future.

Annual Banquet

The annual IEEE at UCLA Student Recognition and Alumni Banquet is established to celebrate and recognize the many accomplishments and successes that the IEEE at UCLA chapter, its members, the ECE department at UCLA, and our sponsors have made possible. We invite our top sponsors to dine with us as a token of our appreciation for their contributions to IEEE at UCLA. The banquet is also a chance to introduce and instate the new officers for the next year to our supporters.
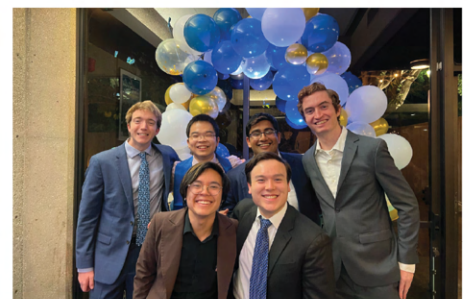
Expenditures

Projects

Extra funding can help projects in numerous ways. Specifically, projects can accept more students, buy more parts, and spend more money on R&D within the project to create advances & a better curriculum for future years. For example, Pocket Racers is spending money on R&D with the AWS DeepRacer as an "advanced track" for next year's students. Furthermore, extra funding allows projects to have access to more advanced tools to complete the projects.

Lab Equipment

One of the main selling points to our engineers is that we have a relatively large lab space fully stocked with tools, passive elements, and other hardware components needed to create just about any project. We want our engineers to never worry about parts limitations so that they can focus solely on their projects. With that being said, funding is the only way we can keep our lab fully supplied.

Sponsorship Tiers

Gold —————————————— 3500

- One info session or workshop hosted by IEEE at UCLA
- Logo on website and weekly newsletter
- Tabling slot for All-American Micromouse Competition and end-of-year Projects Showcase
- Resume book
- **End-of-year IEEE officer banquet invitation**
- **Recruiting post in weekly newsletter (1000+ people)**

Silver —————————————— 2500

- One info session or workshop hosted by IEEE at UCLA
- Logo on website and weekly newsletter
- **Tabling slot for All-American Micromouse Competition and end-of-year Projects Showcase**
- **Resume book**

Bronze —————————————— 1500

- **One info session or workshop hosted by IEEE at UCLA**
- **Logo on website and weekly newsletter**

Project Sponsor* —————————— 500+

- **Logo on project shirt**
- **Access to project specific resume book**
- **Sponsor a competition**
- **Project specific info session/recruiting session**
- **Mentorship opportunities**
- **Projects Showcase invitation**

* Donating to one of the three tiers above includes our Project Sponsor level.

Workshop/info session hosted by IEEE at UCLA ——— 500

- Recruit from targeted audience, large attendance

If you have any questions or wish to be a **General**, **Project**, or **IDEA Hacks** sponsor, please contact us at corporate@ieeebruins.com. Our Corporate Relations Chair would be happy to answer any questions you may have.

How to Give

You may donate/sponsor us online by credit card or PayPal using the online giving link below:

https://giving.ucla.edu/campaign/donate.aspx?Fund=14760c&Code=M-44455

For further reference, our fund number is **14760c** and our marketing effort ID is **44455**.

The UCLA Foundation also accepts donations in the form of checks. In the memo line, please include the following details:

Institute of Electrical and Electronics Engineers (IEEE) at UCLA, Fund 14760c, m-44455.

Checks may be sent to the mailing address below:

The UCLA Foundation
PO Box 7145
Pasadena, CA 91109-9903

Your donation will be disbursed by the UCLA Foundation, which receives contributions made by alumni, friends, private foundations and corporations on behalf of UCLA's departments and clubs.

More information about the management of funds can be found here: *www.uclafoundation.org/disclosures*

Additional documents you may need can be located here: *https://www.uclafoundation.org/Resources/Tools*

Since we hold 501(c)(3) status, donations made to us are tax deductible.

For donation and UCLA Foundation related inquiries, please contact **Elisabeth Leavitt**, Associate Director of Development, Corporate and Foundation Relations, UCLA Samueli School of Engineering at *ekealy@support.ucla.edu*.