INTRO

OPS Roadmap

SECTION I

Meet the Officers!

OPS Officers

Gavin
OPS Lead Instructor

Colton
OPS Lab Supervisor

Eric
OPS Lab Instructor

Ivan
OPS Lab Instructor

OPS Officers

Robert
OPS Lab Instructor

Sahil
OPS Lab Instructor

Timothy
OPS Lab Instructor

Zicong
OPS Lab Instructor

SECTION II

IEEE Overview

IEEE
Student Branch at UC Irvine

IEEE@UCI

Who are we?

We are a student branch of the global IEEE, a professional organization with a mission to advance technology for humanity.

Where?

- Our lab is in ICS 225

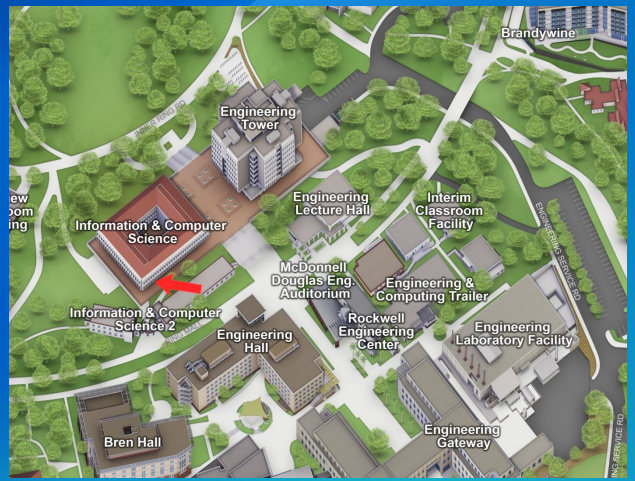
What do we offer?

- Technical Workshops
- Professional Networking
- Micromouse
- Open Project Space

IEEE
Student Branch at UC Irvine

The IEEE Room

- **Where?**
  - ICS 225
  - Giant Post-it “IEEE” on the window
  - You can also find us on Google Maps as “IEEE Student Branch at UCI”
- **When is it open?**
  - Check # room-status
- **What do we have?**
  - 3D printers
  - Soldering Stations
  - Textbook Library
  - Study space
  - Lab Equipment



Click here for directions

IEEE
Student Branch at UC Irvine

Tentative Fall 2024 Events

Technical Workshops:

- VLSI Workshop
- IoT Workshop
- Soldering Workshop

Professional Development:

- Microchip Info Session
- Rohde and Schwarz Info Session
- Caltrol Info Session
- Enterprise Info Session

Tours:

- UCI Nuclear Reactor
- UCI INRF Clean Rooms

Socials:

- Bonfire
- Game Night

SECTION III

OPS Course Overview

Lectures and Workshops

- **Lectures**
  - **Hosted every two weeks**
  - Introduce topics that will be reinforced by the projects
  - Slides are posted on the website after lecture
- **Workshops**
  - Workshops are **interactive activities** to help you complete part of the project
  - Only some workshops are recorded but slides are always posted
  - First workshops are next week (week 4)

Lab Sessions

- Get **one-on-one support** to complete projects
- Weekly lab sessions at the IEEE Room (ICS 225)
    - Hosted by **Lab Supervisor** and **Lab Instructors**
    - **Start Week 4**
    - Hours posted on Canvas
- **No appointment required**

Canvas

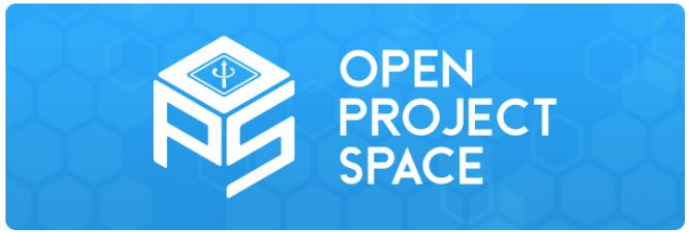
- **Weekly Announcements**
  - Upcoming Projects, Lectures, and Workshops
  - Important Deadlines
- **Assignment Submissions**
  - Deliverables for projects are described on the assignment Canvas page as well as on the project specifications page
- **Lecture, Workshop, and Lab Schedule**
  - See the entire schedule for the active Quarter

Canvas

2024-25 Academic Year

- Home
- Announcements
- Assignments
- Modules
- Syllabus
- People

Open Project Space - 2024-2025



Syllabus **Schedule** **Modules**

Contact Us

Name	Email	Discord Tag
Lead Instructor		

View Course Stream

View Course Calendar

View Course Notifications

To Do

- Welcome to Open Project Space!
  Open Project Space - 2024-2025
  Oct 16 at 8:32am
- Project 1: LED There Be Light
  Open Project Space - 2024-2025
  1 points |
  Nov 1 at 11:59pm
- Project 2: 555 Piano
  Open Project Space - 2024-2025
  1 points |
  Nov 15 at 11:59pm
- Project 3: RGB LED Wizard
  Open Project Space - 2024-2025
  1 points |
  Nov 29 at 11:59pm
- Project 4: SunDial
  Open Project Space - 2024-2025
  1 points |
  Dec 13 at 11:59pm

Discord

- **General Channel**
  - **#ops-general**
  - Channel where you can chat and ask general questions
  - Feel free to introduce yourself here!
- **Project-Specific Questions**
  - **#ops-help**
  - Create posts and ask questions for project help here!
  - Include images, code snippets, and whatever else to thoroughly explain the issue

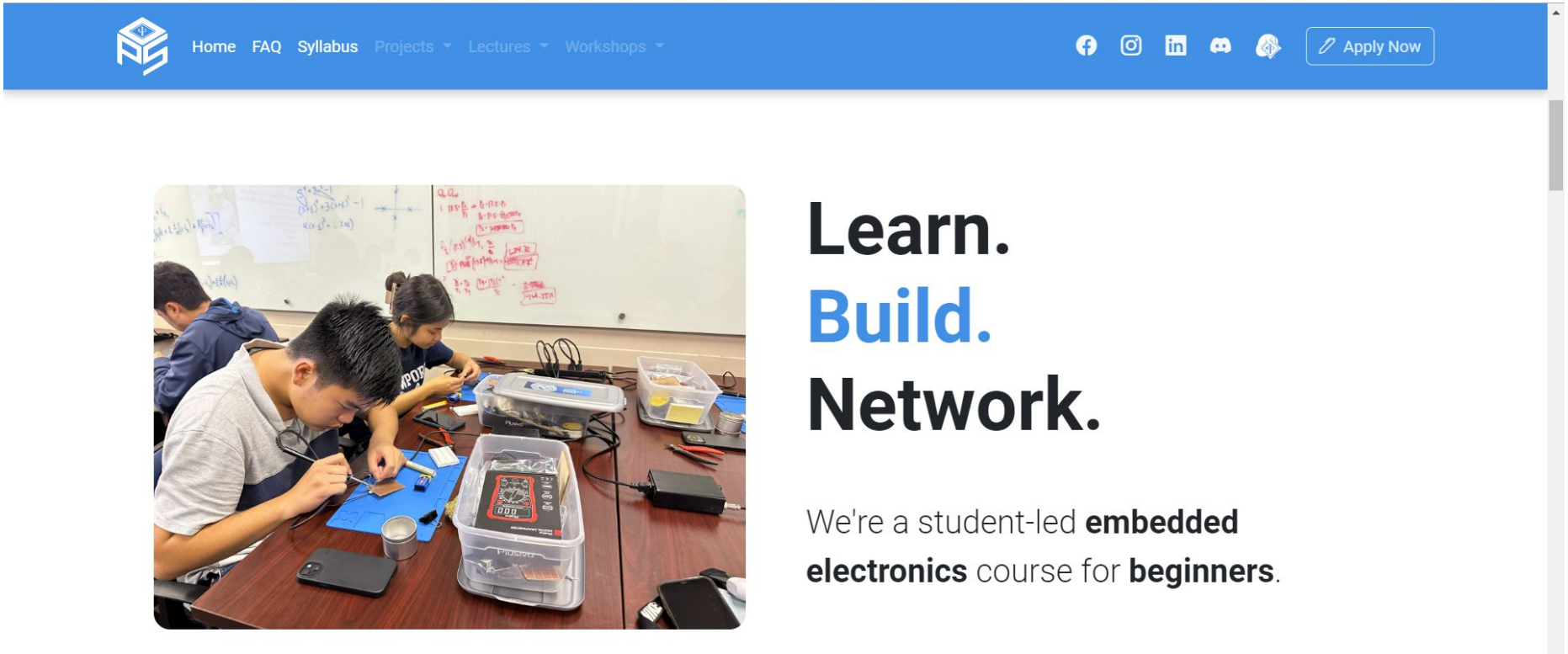
Website

- **Visit the website at ieee.ics.uci.edu/ops (bookmark it now!)**

Overview:

- **Course Syllabus**
  - You can use this as an overview of the full curriculum
- **Lectures and Workshops**
  - The slides and video recordings of lectures and workshops (when available) are posted on the site
- **Project Specifications**
  - Each project specification is made available at the start of the next assignment
  - The pages include links and hoverables to aid your project work

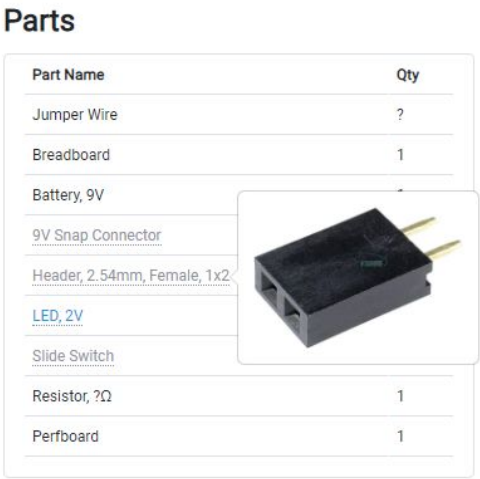
Website



[Visit the Website]

What's in my Kit?

- **Parts**
  - Refer to the syllabus for the **full list of parts** in your kit
    - Use the project specifications page to look for parts (hover your mouse over a part)
    - There may be more parts than the quantity listed in the syllabus
    - Missing a part, or a parts no longer working? Please visit the IEEE Room for a replacement
- **Nametag**
  - Flip the lid of your kit, and **write your contact info** down (in case you misplace the kit)



OPS Student Groups

- Each one of you have been assigned a OPS Lab Instructor!
- OPS students will be divided into 8 groups (1 for each instructor, 14-15 students each)

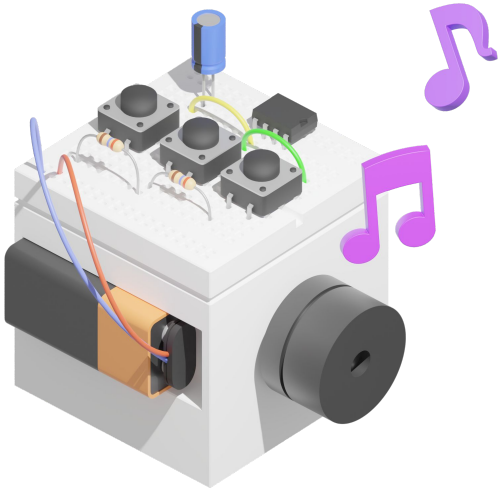
Your instructor will:

- Be your 1st point of contact & answer students' questions
- Help students in projects and the program

Student groups will be posted in threads on Discord!

Projects

- Projects are **released the same day as the lecture** (every two weeks)
- Deadlines are the night of the next lecture (11:59PM)
    - **Deadlines are recommendations** to keep pace with the course
- All projects within a quarter are due at the end of the quarter
    - (end of finals week)
- Your OPS membership is contingent upon the completion of Project 1



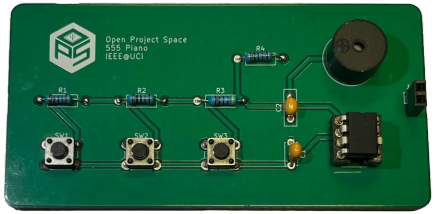
SECTION IV

OPS Roadmap

Fall Quarter Project

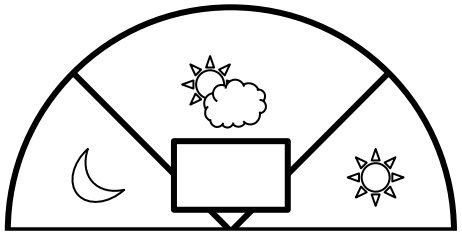
- **Project 1: LED there be Light**
  - Build an LED circuit with a switch and solder it to a perfboard.

- **Project 2: 555 Piano**
  - Create an electronic piano with the 555 Timer IC, and solder it to a printed circuit board.



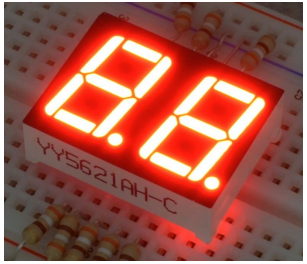
- **Project 3: RGB LED Wizard**
  - Build and program a dimmable RGB LED using the ESP32 and potentiometers.

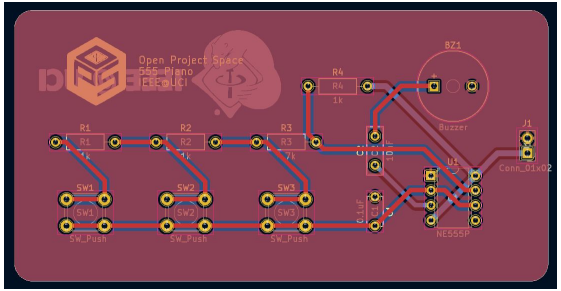
- **Project 4: Sundial**
  - Build and control a servo from data from a photoresistor



Winter Quarter Projects

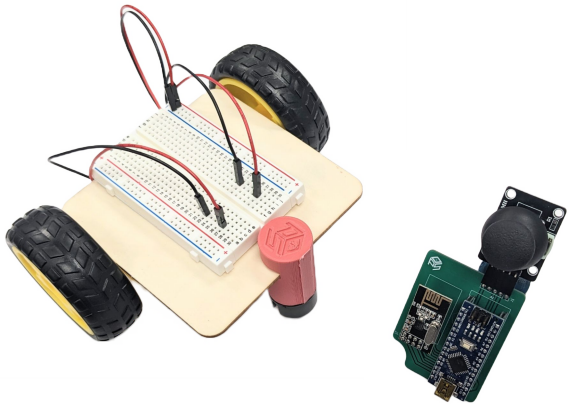
- **Project 5: IPoduino**
  - Build an mp3 player and learn basic hardware communication.
- **Project 6: Weather Station**
  - Build a weather station that wirelessly transmits temperature and humidity data to an indoor display.
- **Project 7: 7-Segment Display Stopwatch**
  - Create a digital stopwatch using software interrupts and timer
- **Project 8: PCB Design With KiCad**
  - Design a PCB for the 555 Blinking LED or Piano.





Spring Quarter Projects

- **Capstone RC Rover**
  - Build and control a rover remotely with a custom PCB.
  - Any questions on any project?



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