

# Leonel Alejandro Montoya

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## EDUCATION

### University of California San Diego

Computer Science and Aerospace Engineering: GPA 3.6 out of 4.0

San Diego, CA

Sep. 2022 – present

## EXPERIENCE

### Hack at UCI Best Beginner Hack

2024

University of California Irvine

Irvine, CA

- Developed a website hosted in Google Cloud that simplifies splitting bills with multiple people.
- Implemented a Django framework and SQLite database for the website.
- Led a team of two software engineers in the back-end development of the website.

### HackDavis Participant

2023

University of California Davis

Davis, CA

- Developed a website that generates a cooking recipe based on the ingredients available.
- Implemented a React framework and Open AI's API
- Led a team of three software engineers for the back-end development of the website.

### FIRST Robotics Competition

2020 and 2022

Instituto Tecnológico de Monterrey

Monterrey, Mexico

- Developed the mechanical aspects of a robot capable of multi-directional movement, picking up and throwing 15cm-diameter balls, and climbing parallel bars up to 2.5m.
- Guided new team members to enhance their understanding of robotics.
- Contributed to team organization and management to have the robot ready for competition before the deadline.

### Private Tutor / UCSD Tutor (Present)

2019 – 2022 & 2024 – Present

University of California San Diego & Instituto Tecnológico de Monterrey

Guadalajara, Mexico; San Diego, CA

- Tutor individual students and small groups in mathematics, physics, chemistry, and coding.
- Prepared students for school exams and college admission tests.
- Organized study and homework sessions for multiple students.
- Greatly increased the students' proficiency at school and helped them obtain college admission.

### 'Split It' Co-founder and Software Engineering Lead

2024 – Present

University of California San Diego

San Diego, CA

- Co-founder and Software Engineering lead of 'Split it', a web/app application that facilitates splitting restaurant bills between multiple customers.
- Implementing a React framework and SQL database, while using Google Cloud for hosting.
- Working in a multidisciplinary team and personally leading three software engineers.

## PROJECTS

### Radio Communication Protocol | Micropython

- Developed a 433Mhz radio receiver algorithm to handle data reception through high and low electrical signals. The algorithm is based on the Manchester code, a data transfer protocol.

### Radio Receiver Micropython Library |

- Developed a Micropython library that handles 433Mhz high and low electrical signals, intended for use on a Raspberry Pi Pico with a receiver module.

### RaspberryPi Robot | Python

- Developed a remote-controlled robot with infrared camera using a RaspberryPi 4 microprocessor.

## TECHNICAL SKILLS

**Languages:** Python, C/C++, Java, JavaScript, MATLAB, R, Arm Assembly, HTML/CSS

**Microcontrollers & Microprocessors:** Raspberry Pi, Raspberry Pi Pico, Arduino

**Frameworks:** Django, React, React Native, SQL/MySQL, Node

**Developer Tools:** Linux, Git, Github, Google Cloud Platform, Visual Studio Code

**Other Skills:** Algorithms, Troubleshooting, Test Automation, Full Stack Development, Database, Data Visualization, Data Analysis, Matplotlib, Pandas, Research, Documentation, Leadership, Interpersonal Skills, Communication