Adit Roychowdhury

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EDUCATION

University of California, Berkeley — **Aug 2019 – May 2023**
GPA: 3.821
BSc Mechanical Engineering
BSc Electrical Engineering/Computer Science

- **Relevant Courses:** Manufacturing and Tolerancing, Advanced Engineering Design Graphics, Professional Communication, Thermodynamics, Electronics and Circuits, Mechatronics Design, Solid Mechanics
- **Awards and Honours:** Dean's List, E-robot Prize Finalist, Member of Tau Beta Pi, Member of Pi Tau Sigma

SKILLS

Mechanical Engineering: Fusion360, AutoCAD, SolidWorks, Design for Manufacturing, FEA, 3D Printing/Prototyping, Creo
Electrical Engineering: Circuit Design and Debugging, PCB Design, Arduino, ROS, PyBullet, Robotics Control, Soldering
Computer Science: MATLAB, Python, Java, XML, HTML, Object Oriented Programming, Data Structures

WORK AND RESEARCH EXPERIENCE

Signetron Inc, Berkeley CA — **March 2021 – Present**
Robot Engineer

- Researched methods of retrofitting attics using robots to reduce energy waste for the E-robot challenge
- Used Python and object recognition to program a hexapod controller to navigate harsh environments
- One of 10 teams to win Phase 1 and qualify for the final stage of the HeroX E-Robot competition out of 400.

UC Berkeley, Berkeley CA — **July 2021 – Aug 2021**
T-PREP Design Assistant

- Taught product design and rapid prototyping at a pre-engineering program for incoming transfer students
- Mentored a team of 5 students to prepare them for presenting their product to industry leaders

MARMoT Lab @ National University Singapore, Singapore — **June 2021 – Aug 2021**
Hexapod Robotics Researcher

- Developed controller for a high DoF hexapod in Python and PyBullet to allow simulation of the hexapod
- Implemented C++ elevation mapping packages and techniques to serve as a baseline comparison for the labs' paper on a Central Pattern Generator based controller

PractiSc Labs, India — **June 2020 – Aug 2020**
Product Design and Manufacturing Associate

- Led the integration of the design and electronic components for an educational product.
- Used Fusion360 to design the product for prototyping and manufacturing
- Co-wrote project report for investors and prototyped final circuit and PCB Design

EXTRACURRICULARS

Cal Human Powered Vehicle — **Sept 2020 – Present**
Frame Team Lead

- Designed an ergonomic seat for the vehicle using Fusion360 and SolidWorks, and our team placed 1st in innovation and 2nd overall in the ASME HPV Competition
- Performed FEA on adjustable seat attachment mechanism

Cal RoboBears — **Sept 2020 – Present**
Team Lead and Instructor

- Built a RC battle robot for the Cal Combat Robotics Competition using SolidWorks CAD and FEA tools
- Used Python to develop a controller for a self-driving SumoBot using object recognition on a Raspberry Pi
- Designing the armor and structure of a 250lbs BattleBot to compete in the BattleBot show

PROJECTS

Window Cleaning Robot

- Used 3D scanning and Fusion360 to design and prototype am automated window cleaning robot

Gitlet

- Programmed and implanted a version-control system from scratch in Java.
- Implemented commands such as *init, add, remove, commit, branch, log, checkout, merge*

Recycled iMac Monitor

- Converted a broken iMac found in the trash into a Marvel-themed monitor using laser cutting, soldering and CAD