






PRANAV CHAUDHARY

 pranavc28.github.io

 pranavc28

 pranavc@umich.edu

 pranavchaudhary

 (734)-730-2743

Education

University of Michigan, Ann Arbor

Bachelor of Science in Engineering

Major: Computer Science

Coursework: Differential Equations, Linear Algebra, Programming and algorithms, Discrete math, Machine learning (online), Design and Manufacturing, Entrepreneurial Creativity, Economics: Financial Markets

Clubs/Programs – IEEE, Bursley Multicultural Council (Head of Logistics), Michigan Electric Racing, Pi Tau Sigma, TechLab at MCity

Ann Arbor, MI

Class of April 2022

GPA: 3.65/4.00

Experience

Innoviz Technologies

August 2020 – Present

TechLab MCity 2020 Cohort Member (Software Engineer)

- Implement data analytical techniques to test LiDAR sensor technology and, computer vision for obstacle awareness.
- Integrated systems of traffic lights and sensors to simulate the effects of pedestrians crossing in front of traffic lights.
- Wrote a RESTful command-line interface in Python that uses APIs to change the traffic lights at an intersection.
- Studied cases of different autonomous features, and mentored by product manager, to develop better product management skills.

Michigan Electric Racing (Formula Electric FSAE Team)

August 2018 - Present

Suspension Lead

- Analyzed 1000s of tires data points for 2020 racecar using MATLAB graph plotting. Tire choices were made from this.
- Wrote algorithms and scripts in MATLAB to measure the battery's state of charge, to make it simpler for simulations.
- Lead in the cost analysis of different potentiometers for maximizing sensor choice quality and ordering of potentiometers.
- Designed, manufactured, and assembled chassis and suspension components for the 2020 race car.
- Created Excel design tools, such as the steering-torque calculator, which calculates tire to steering wheel torque.
- Presented, during competition, the methods to reduce R&D costs by 90% - such as by generating other sources of revenue.

Materials Characterization Lab

January 2020 - Present

Undergraduate Researcher

- Built python scripts in Abaqus from data to simulate tested material properties for 3D printing of rubber lattices.
- Performed data analysis of materials collected using machine learning to determine which polymer fits a certain role.
- Create and test FEA models so as to determine how a certain polymer will behave to different forces and environments.

Projects

Remote Controlled Robot

August 2019 – December 2019

Team Lead (4 members)

- Lead one of the 2 teams, out of 15, to complete the tasks required and successfully finish the course.
- CAD (SolidWorks) and Manufacture (Mill and Lathe) the robot from the ground up - designed a hammer and drawbridge on robot.
- In charge of overlooking budget costs, such as online ordering, and use of manufacturing material to make the robot.

Autonomous Drones Course Navigation

August 2018 – December 2018

Team (4 members)

- Coded a drone to autonomously navigate a maze in C++ using LiDARs, and implemented a PID control and response filters.
- Integrated a quadcopter using BeagleBone, Arduino, and a Mission Planner Software.

Command Line Euchre

May 2020 – June 2020

Programmer

- Utilized C++ to make a command-line interface for Euchre, a card game, using classes and polymorphic players.
- Developed complex, random bot strategies to simulate games, that were tested using unit test macro frameworks.

Image ReScaler using Computer Vision

May 2020 – June 2020

Programmer

- Implemented computer vision model in C++ using seam carving algorithm to remove low cost seams for content-aware resizing.

Skills

Languages – C++, C#, C, MATLAB, Python, R

Web design – JavaScript, React-Native, HTML, CSS

Tools – SolidWorks, Siemens NX, Teamcenter, Mill and Lathe, Abaqus, Git, Bash, Linux, XCode, Android Code, Docker, Gitlab, CI/CD, Agile

Awards

Dean's List (2018 - 2019)

University Honors Award (2018 - 2019)

Pi Tau Sigma – Exclusive Honor Society only for students with a high GPA