Amikosh Dube

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EDUCATION

Purdue University

Bachelor of Science in Computer Engineering

August 2021 - Present

- Gpa - 3.48 / 4.0
- Spring 2022 Deans List

SKILLS

Programming

- C++, C, Python
  - Airsim, SWARMS, and Robotics
- MATLAB
  - Algorithm devlopment, testing, and model visualization
- Octave
  - Machine learning model development

Control Algorithms

- PID, LEQ and Motion Profiling
  - Drone swarms and robot controllers

Software

- Github and Git
  - Source Control
- Unreal Engine
  - Scenario Creation
- NX

CERTIFICATIONS

Machine Learning

Andrew Ng / Stanford

August 2021

Programming in Python

Purdue University

January 2022

EXPERIENCE

Drone Swarms Research | Purdue University

Aug 2021 - Present

- Developing an easy-to-use, scalable, web-based multi-agent drone simulation platform
- Allows rapid prototyping and testing of drone swarm algorithms in complex and diverse scenarios
- Collaborated on Obstacle Avoidance algorithms utilizing sensors such as LiDAR, Distance Sensors, and Cameras to help detect potential obstacles in the drone's path
- Successfully implemented terrain following code in the simulation allowing for drones to avoid hills, blocks, and humans
- Designed different control systems to efficiently control the drone and minimize error / jerk when performing movements
- Presented findings at Purdue Undergraduate Research Conference and placing 3rd place overall

Active Control PSP | Purdue Club

September 2021 - Present

- Working on becoming the first university to have a student-led team land a reusable rocket
- Utilized MATLAB / Simulink to create a 6DOF system to test rocket control systems in a simulated environment
- Helped design / explain Github and Source Control to teammates

Robotics | South Forsyth High

August 2017 - May 2021

- Lead programmer for the robotics team 1961z
- Programmed multiple robot control systems in C++ to utilize an autonomous period
- Control systems used were PID, Motion Profiling, and Odometry to make quick and precise movements
- Innovated driver-assisted functions to give an advantage to the driver, such as automatically lifting an object or recognizing a specific game object using an array of sensors

LEADERSHIP

Lead Researcher | Purdue University

August 2022 - Present

- Publishing a research paper to share a new obstacle avoidance algorithm
- Leading the Drone SWARM research team working with our professor to conduct meetings and assign tasks to students
- Redesigned the meeting structure and subteam meetings to make it inclusive; have peers ask questions and provide code examples as practiced in the workforce