Sanket Sharma

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Summary

A results-driven mechatronics student passionate about developing robotic, UAV and blockchain applications. Excellent problem-solving skills and ability to perform well in a team.

Work experience

Ardupilot   May 2022 — September 2022
Contributor, Google Summer of Code

- Updated ROS integration for Non-GPS navigation and off-board path-planning
- Developed a LiDAR equipped quadrotor with Ardupilot FCU
- Updating the base code for the Cartographer SLAM tuning parameters
- Integrating the offboard object avoidance with ArduPilot Auto mode

General Aeronautics   September 2021 — January 2022
Intern

- Developed a ROS based non-GPS Navigation and offboard path planning solution for Ardupilot based drones.
- Developed simulated worlds and a custom hexarotor simulated model.
- Used and learnt about ArduPilot software for UAVs.
- Deployed and used image processing, control systems and autonomous capability on UAV for various simulated problems.

eYantra, IIT Bombay   May 2021 — July 2021
Intern

- Developed a precision landing package for PX4 based UAV.
- Used and learnt about ROS, Gazebo, C/C++ and Python.

- Used and learnt about PX4 software for UAVs.
- Deployed and used image processing, control systems and autonomous capability on UAV for precision landing on a moving platform.

Qualifications

- National Level Finalist at Smart India Hackathon 2022 organized by Ministry of Education(MoE), Government of India
- Won Tekathon'22 organized by Chandigarh University for Sahaya, an elderly care humanoid robot.
- National Level Semi-finalist at Sony and IIT Madras organized SAMVEDAN 2021 for a PX4 based agri-drone capable of irrigating the fields and monitoring crop health.
- National level runner up in IIT Bombay organized eYRC robotics competition for a custom flight controller and program developed for a ROS based delivery drone
- 2020 North Zonal Finalist in TATA Crucible Hackathon 2021 Safe electrical line transmission project
- Won(1st Rank) various International hackathon in hardware and overall category: Quellie Hacks, StemWarriorHacks, RoboHacks and HackKu

Projects

- Sahaya - An old age nursing ROS based humanoid robot capable of autonomously mapping and navigating around the house and providing medicine and water to the old age people.
- AgriDrone - AgriDrone is an agriculture drone that helps in irrigating, spraying pesticide, seeding and crop analysis. The drone is based on Pixhawk FCU and a companion computer with ROS as an offboard API.
- Parkinson's Spoon - A spoon for people, especially old aged, diagnosed with Parkinson's disease. It helps in nullifying the tremble of hand that causes uneasiness while eating or having soup.
- Micromouse - Submitted for IIT Bombay techfest, is a maze solving bot, looking for the shortest path to the center using the flood fill algorithm. Our micromouse is based on ROS and python.
- Covimate: Submitted for IIT Bombay, eYHC, is a IoT health band which reports the oxygen level of the person on their phone.

Education

BE in Mechatronics   August 2020 — July 2024

- Chandigarh University
- Currently pursuing Bachelors of Engineering in Mechatronics

Skills

My current technical stack includes:

- Python
- C/C++
- ROS
- PX4
- Ardupilot
- Linux
- Solidity
- JavaScript
- HTML
- CSS

Interests

Reading, Blockchain, Smart Contracts, UAVs, Robotics, IoT, Web Development