Anmol Agarwal

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Education

Program	Institution	%/CGPA	Duration
B. Tech, Computer and Communication	Manipal Institute of Technology, Manipal	8.84	2019-Present
Grade 12, CBSE	Delhi Public School Rajnagar, Ghaziabad	93.75%	2018-19
Grade 10, CBSE	Delhi Public School Rajnagar, Ghaziabad	10	2016-17

Projects & Experience

Mars Rover Manipal –Sep 2019 to June 2021

- Working in capacity of Project lead for European Rover Challenge 2021, managing a team of 31 undergrad students in both technical and managerial role.
- Developed an Autonomous System for Asia's best rover team as an Artificial Intelligence team member for University Rover Challenge 2021, USA.
- Mentoring 11 juniors for upcoming AI team.
- Secured third place in International Mars Hackathon 2020.
- Worked on various mini project as a part of the team:
  1. **Joystick Controller Code** for Rover using Arduino in C.
  2. **Tennis Ball detection** in harsh lighting conditions using OpenCV on Raspberry Pi.
  3. **Socket Programming**: Sent a compressed video feed through TCP/IP sockets. Synchronized multiple video feeds using multithreading.
  4. **Autonomous GPS Navigation**: Implemented using GPS, IMU Sensor, Stereo Camera and lidar
  5. **AR Gate Traversal**: Developed an algorithm to search and autonomously traverse between two AR tags.

Autonomous Delivery Drone Simulation – Oct 2020 to March 2021

- Simulated an Autonomous Drone on ROS Gazebo that delivers packages to desired locations. (E-Yantra, organised by Indian Institute of Technology, Bombay)
- Worked on the detection capability of drone by training an OpenCV cascade classifier to detect landing markers and used photogrammetry to localise the pad.
- Designed the scheduling algorithm for the delivery and return of the package in most time and cost-efficient way.

Skills

Programming Languages: C++, Java, Python, C, HTML5, JavaScript, MATLAB
Tools & Frameworks: ROS, Gazebo, Linux, Git/GitHub, Bootstrap, React, NodeJS, JSP, Servlet
Packages and Library: OpenCV, NumPy, Matplotlib, Pandas
Hardware: 3D Lidar, Kinect, IMU, RTK GPS, Stereo Cameras, Nvidia Jetson TX2, Raspberry Pi, Arduino
Relevant Courses: Data Structures and Algorithm, Object Oriented Programming, Discrete Mathematics, Database Systems, Operating Systems, Full stack Web Dev.