AMIT KUMAR

Supaul, Bihar

📞 +91-7654654776 ✉ amitkum9898@gmail.com in Linkedin 🐙 Github Codeforces ⟮ LeetCode

EDUCATION

National Institute of Technology Allahabad, Prayagraj   **2021 − 2025**
B.Tech - Mechanical Engineering - **CGPA** *-* **7.81**   *Prayagraj, Uttar Pradesh*

AREA OF INTEREST / COURSEWORK

- Data Structure & Algorithms
- Software Development
- Robotics & Control systems
- Basic SQL
- Front-end Development

PROJECTS

Cosmo Logistics ☑ | Python, ROS2, Nav2, SLAM, Gazebo, Rviz   **Aug 2023 - Feb 2024**

- Developed a logistics management system as part of the eYantra project using a UR5 Robotic Arm and a mobile Robot.
- UR5 Arm detects and localizes the boxes placed on racks, and picks and drops them avoiding collision.
- Ebot navigates autonomously using Lidar, SLAM and Nav2 integration to reach racks. Docks, picks and drops the rack before the arm.
- Successfully performed hardware testing on arm and Ebot at the warehouse in IIT Bombay.
- Achieved a significant improvement in delivery efficiency through optimized scheduling.

Smart Solar Panel ☑ | Solidworks, Arduino, Sensors, Microcontrollers   **Jan 2023 - March 2023**

- Designed a smart solar panel system capable of tracking the sun's movement to maximize energy capture.
- Used sensors and microcontrollers (Arduino) to automate panel adjustments.
- Utilized Solidworks to create detailed model of Solar Panel, ensuring efficiency and effectiveness in manufacturing.
- Increased energy efficiency by around 15% compared to static panels.

Guardian Drone ☑ | Python(DroneKit-SITL), Mission Planner, IMU, PID Control, ArduPilot   **Mar 2024**

- Led UAV competition team, using Mission Planner, DroneKit-SITL, and ArduPilot for flight control.
- Executed autonomous missions in simulation, navigating geometric shapes with precision..
- Demonstrated technical skills in sensor integration, PID tuning, and MAVLink protocol.
- Enhanced drone stability and accuracy with PID control algorithms.

TECHNICAL SKILLS

Languages: C++, C, Python
Technologies/Frameworks: HTML5, CSS3, Javascript, ROS2(Robot operating system), Nav2
Developer Tools: VS Code, Git, Github

CODING PLATFORMS

- Solved **230+** Problems on **Leetcode**. ☑
- Solved **350+** Problems across **Codeforces** and **GeeksForGeeks**. ☑

ACHIEVEMENTS

- Achieved a rank of **12** out of **345+** teams in E-Yantra robotics competition (e-YRC 2023) held by **IIT Bombay**. ☑
- **Runner Up** in Guardian Drone competition held by Aero club MNNIT.