Raghavendra P Jadhav

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Education

National Institute of Technology Karnataka, Surathkal **Dec. 2021 – May 2025**
Bachelor of Technology in Mechanical Engineering *CGPA: 7.56/10*
Minors in Electronics and Communication Engineering *CGPA: 7.33/10*

Projects

15KG Combat Robot | *CSD Robocon NITK* **August 2023 - October 2023**

- Designed and Manufactured a Combat Robot for 15KG weight category Robowars.
- Learnt a lot about materials and their selection. Also learnt about the hardening process of materials.
- Worked with machines like CNC and Lathe during the course of Manufacturing.
- Worked with electronics such as BLDC Motors, ESCs and their integration.

Tongue Thrust preventing Dental Implant | *Dept. of Mechanical Engineering, NITK* **Feb 2023 - June 2023**

- Developed a novel device that dynamically prevents tongue thrust in patients along with a team of 4.
- Designed the device using Autodesk Fusion360. ANSYS Structural was then used to assess the models.
- Performed rapid prototyping by making use of 3D printing technology to analyze and optimize the design further.
- After a suitable biocompatible material was identified, the model was printed using it.

Pharma Bot | *e-Yantra Robotics Competition 2022-23* **Sept 2022 - Feb 2023**

- Worked in a team of 4 to develop an autonomous robot that collected and delivered medicines in a smart city arena.
- Developed algorithms for line-follower and obstacle-avoider robots; Simulated them in Coppeliasim using Python APIs.
- Programmed the bot in Python and integrated technologies like Image Processing for path following.

Experience

Drona Aviation Pvt. Ltd. **June 2023 – Sept 2023**
Project Intern

- Analysed the airflow in the presence of Prop Guard using ANSYS Fluent.
- Optimised the Prop Guard to achieve maximum airflow so as to increase the efficiency of the drone.
- Designed and optimised new and pre-existing add-ons for the PlutoX drone.

CSD Robocon NITK **June 2022 - Present**
Media & Web Head *January 2023 - Present*

- Responsible for maintaining the social media accounts and website to boost Public Relations.

Electronics Subsystem Engineer *June 2022 - Present*

- Integrated sensors and actuators with the body of the robot to make it fully functional.
- Developed custom PCBs to replace Perf board circuitry in the robots (Arduino Shields).

Mechanical Subsystem Engineer *June 2022 - Present*

- Built two semi-autonomous shooting robots capable of locating and firing rings from up to 12 meters away in poles.
- Throughout the production process, I had the opportunity to interact with fascinating technologies including CNC Milling/Turning, CNC Laser Cutting, and 3D Printing.
- Got the opportunity to compete in the IIT Delhi-hosted DD Robocon 2023 Nationals.

Technical Skills

Languages: Python, C++, Arduino C, Embedded C, MATLAB, JavaScript
Tools: Fusion360, Solidworks, AutoCAD, ANSYS, Autodesk Eagle, Altium Designer, Ardupilot
Technologies/Frameworks:ROS2, Gazebo, Linux, Git/GitHub, Web Development
Hardware Proficiency: Arduino, Raspberry Pi, Raspberry Pi Pico

Achievements

Technica'22 by ISTE-VIT | *Winner of Open Innovation Track* **May 2022**

- Developed and implemented an innovative Speed Limit Indicator solution utilizing IoT devices; effectively enhanced driver awareness and adherence to speed limits, resulting in a decrease in traffic violations.

TechTatva'23 Robowars - 15KG Category | *2nd Prize* **October 2023**

- Designed and Manufactured a 15KG Combat Robot. Won 2nd prize by eliminating 8 teams.