Pawan Ishwar Kadam

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ABOUT

Undergraduate student at Savitribai Phule Pune University. Sound knowledge of Programming languages, Data Structures and Robotics. Hands on experience in Robot Operating System. Adaptable and interdisciplinary approach willing to work on finding scalable solutions to real-life problems.

EDUCATION

Pimpri Chinchwad College of Engineering **2019 – 2023**
Bachelor of Engineering - Computer Engineering *CGPA (Aggregate up to 4 semesters) - 9.53*

WORKING PROFICIENCY

Programming: Python, C++, SQL, JAVA, Flutter, Dart, Python Flask, MongoDB, Object Oriented Programming
Software: ROS, Arduino, Linux, OpenCV, VMWare Workstation, LATEX
Hardware: Jetson Nano, Arduino, Raspberry Pi, RP LiDAR, Intel RealSense Tracking Camera

EXPERIENCE

Team Automatons PCCoE **Sep 2019 – Jan 2021**
Technical Team Member, ROS Engineer *PCCoE, Pune*

- Led a team responsible for control and motion planning of robotic systems. Programmed robot kinematics and path tracing codes for mecanum-drive, swerve-drive and omni-drive three and four-wheeled robots. Oversaw the designing and manufacturing of finalised mechanisms for ROBOCON 2021 theme.
- Introduced ROS (Robot Operating System) for the first time in the team and successfully implemented it on the robots. Studied and implemented various algorithms and packages available in ROS. Controlled all the robots using various devices like mobile phones, laptops, etc. And made them completely autonomous.
- Interfacing Arduino with Jetson nano using ROSSERIAL communication. Worked on interfacing laser sensor RP-LIDAR and Tracking Camera Intel RealSense T265 with ROS for complete autonomous navigation of robots using ROS.

PROJECTS

An Autonomous Industrial Warehouse Robot Simulation in Gazebo | *Python, C++, Ubuntu, ROS*

- Designed and created an industrial warehouse robot from scratch. Simulated it in Gazebo (Simulation software) and visualized in RViz (Visualization software), making it fully autonomous.

Omni Wheeled Robots using ROS | *Python, C++, Ubuntu, ROS, Arduino, LIDAR, Tracking Camera*

- Implemented both non-holonomic and holonomic autonomous navigation on both three omni wheeled and four omni wheeled robot using Robot Operating System.

College Covid Healthcare System | *MySQL, PHP, HTML, CSS*

- Designed a website for college to maintain students' and staff members' vaccination and plasma related data. It will help NGOs to find plasma donors.

Dynamic Automobile Traffic Management System | *OpenCV, Python, Python Flask, Arduino, MongoDB, Heroku*

- Designed a complete traffic management system which will help traffic administrators in controlling traffic flow by dynamically detecting the vehicle count at the junction and the same will be visualized on web application.

EXTRA CURRICULAR ACTIVITIES

- Successfully conducted and managed Introductory robotics workshop for 250+ first year undergraduate students.
- Participated in SAP Semicolon Hackathon 5.0 and ranked in top 95 teams among 1878 teams worldwide.

AWARDS and PUBLICATIONS

- All India Rank 4 and Promising Performer Award in Robocon 2021.
- Conference Paper on "Implementing Autonomous Navigation on an Omni Wheeled Robot Using 2D LiDAR, Tracking Camera and ROS" published in International Conference On Big Data, Machine Learning and Applications (BigDML 2021).
- Conference Paper on "Industrial Warehouse Robot Simulation Using ROS" accepted at International Symposium On Artificial Intelligence (ISAI) 2022.

CERTIFICATIONS

- Coursera: Python for Everybody (Specialization), University of Michigan.
- IBM Data Science Professional Certificate (Ongoing)
- Udemy: Programming with C++ Language: The Complete Course.