Kartikey Pathak

Roll No.: 231030029
B.Tech Electrical Engineering
Minor in Robotics
Veermata Jijabai Technological Institute, Mumbai

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Education

•Veermata Jijabai Technological Institute (VJTI) *2023 - 2027*
B.Tech in Electrical Engineering CGPA: 8.01

•Matoshree Prabodhini Jr. College *2023*
HSC, Maharashtra State Board MHTCET: 99.14%

Personal Projects

•Voice Video Manipulator *June 2024 - July 2024*
Controlled an Open Manipulator X in Gazebo using forward and inverse kinematics with ROS2 environment camera integration. Tools: ROS2, Gazebo, RViz

– Successfully spawned the model and implemented pick-and-place functionality for objects.

•ForkliftSLAM Navigator *March 2025 - Present*
Currently implementing SLAM using NAV2 and UWB technology for precise localization and navigation of a forklift in warehouse settings. Tools: ROS2, NAV2, UWB, RasPi

– Successfully initiated SLAM implementation in ideation phase; project currently in progress.

•eYantra Warehouse Drone Competition *October 2024 - January 2025*
Navigating a drone through a warehouse using ArUco markers for localization and path planning, reaching semi-finals of the competition. Tools: ROS2, PID, Computer Vision

– Task was to implement PID control algorithms for precise drone movement and leveraged ArUco marker detection for autonomous navigation in a simulated warehouse environment.

•Kuruma *January 2025 - March 2025*
Developed a quadruped robot for the Mass Robotics Competition, designing a gait mechanism for stable movement; advanced to later competition rounds. Tools: C, Python

– Successfully navigated the quadruped in the SRA Lab, demonstrating effective mobility.

Technical Skills

- **Programming:** C, C++, Python
- **Software:** ROS2, Gazebo, RViz, KiCAD, ESP-IDF
- **Hardware:** ESP32, Raspberry Pi

Positions of Responsibility

•Department Head, Pratibimb, Cultural Committee *August 2023 - March 2025*

•Active Member, Society of Robotics and Automation (SRA) *August 2024 - March 2025*

Achievements

•Conducted technical workshops, Led workshops on embedded C programming and ESP32-controlled self-balancing and line-following robots for fellow students. *2024*

•Consistently excelled in multiple hackathons, Delivered strong performances with my team in every hackathon participated during first and second years at VJTI. *2023 - 2025*