PREETHI VAISHNAVI K

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Linkdin

Profile

A passionate and motivated third-year BE student specializing in Robotics and Automation, currently in the 6th semester. Strong foundation in mechanical systems, electronics, control systems, and programming. Eager to apply theoretical knowledge in real-world applications through innovative projects and internships. Known for being a quick learner, team player, and problem solver with a keen interest in AI, robotics, and automation technologies.

Education

09/2022 – present
Bangalore, India
Bachelor of Engineering
JSS Academy Of Technical Education
Grade - 8.2 CGPA

05/2018 – 07/2020
Bangalore, India
Pre-University Course(PUC)
VVS PU College
Percentage - 83%

05/2017 – 05/2018
Bangalore, India
Secondary School Leaving Certificate (SSLC)
The New Cambridge High School
Percentage - 83%

Projects

The Solar-Powered Warehouse Robot

- Designed and developed an autonomous warehouse robot powered by solar energy to improve efficiency and reduce environmental impact
- Integrated key components including a Single Board Computer (SBC), microcontroller, motor drivers, encoder motors, ultrasonic sensor, and IMU
- Programmed the robot to perform tasks such as inventory management, order fulfilment, and goods transportation
- Focused on optimizing energy usage through solar panels, promoting green logistics and sustainability in warehouse operations

Autonomous Mobile Robot

End-to-end design and development of an intelligent mobile robot with real-time navigation and control capabilities.

- Designed and programmed an AMR to navigate autonomously in unknown environments
- Integrated ultrasonic/infrared sensors and encoders for real-time obstacle detection and avoidance
- Developed embedded control systems for motion control and task execution using microcontrollers (e.g., Arduino/Raspberry Pi)
- Implemented localization and path planning algorithms for efficient and adaptive movement
- Utilized Python for low-level hardware interfacing and high-level control logic
- Applied concepts of sensor fusion, robotics kinematics, ROS and automation for robust operation
- Tested the system in dynamic scenarios, demonstrating reliability and versatility in real-world conditions

Skills

Languages: C | Python | Data Structures

Course Work: Robot Operating System (ROS) | Object Oriented Programming | CAD | ANSYS

Tools/Platform: Fusion 360 | RoboDK | Automation studio | VS Code | MATLAB | Spyder

EXTRACURRICULAR ACTIVITIES

- Passionate about robotics and problem-solving, actively participating in competitions and hackathons to apply my skills and learn new technologies.
- Enjoy organizing and coordinating events, fostering teamwork and managing logistics for smooth execution.
- Participated in the RoboSoccer competition, collaborating with a team to design and program autonomous robots for competitive gameplay
- Participated in the Line Following Robot competition, where I designed and programmed a robot to autonomously follow a path using sensors and algorithms.