Smart Obstacle Recognition using Raspberry PI

Dr. Vijayalakshmi G V, Drashan S, Tanmay Srivastava,
Gaddam Shaik Mohammed Irshad, Harish K M
Department of ECE,
BMS Institute of Technology and Management, Bengaluru, India

Abstract*: A cutting-edge technology to improve safety and navigation in varied contexts is the smart obstacle system. In order to identify and remove obstacles in real-time, this project makes use of the Raspberry Pi, a flexible single-board computer, together with sensors for temperature, potholes, ultrasonics, and GPS. Accurate obstacle detection, trustworthy navigational guidance, and effective obstacle avoidance capabilities are all goals of the system. To build a complete obstacle detection and navigation system, the project entails the integration of hardware components, software implementation, and system integration. The Raspberry Pi functions as the main computing unit, coordinating data collection from the sensors and running algorithms for obstacle identification. While the temperature sensor keeps an eye on the environment, the ultrasonic sensor searches for nearby things. The GPS sensor gives location data, and the pothole sensor detects road defectsexact location information*

Keywords: Obstacle Avoidance

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