

# Object Detecting and Recognizing Robo Using Raspberry Pi and Machine Learning

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**Abstract:** *This research paper proposes an object detecting and recognizing robot using Raspberry Pi and machine learning techniques. The robot is designed to move around autonomously and detect various objects using computer vision techniques. The system utilizes a camera module and TensorFlow machine learning library to perform object detection and recognition. The robot is controlled by a Python script that processes the camera images in real-time and sends commands to the motors to adjust the robot's movement. The proposed system uses transfer learning to train a pre-trained convolutional neural network (CNN) on a custom dataset of objects. The CNN is used to recognize objects in real-time. The performance of the robot is evaluated by testing its ability to detect and recognize different objects in different environments. The results show that the robot is capable of accurately detecting and recognizing objects, making it suitable for various applications, such as surveillance, security, and monitoring.*

**Keywords:** Object Detection, Machine Learning, Robotics, Machine Learning Algorithms

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