Semantic Scene Recognition using ESP32 and Deep Learning

Prof. Vaishali Bhusari, Harsh Thakur, Om Bodke, Sahil Guhagarkar, Arya Redkar

Professor, Department of Computer Engineering

Students, Department of Computer Engineering

K.C. College of Engineering & Management Studies & Research, Thane, Maharashtra, India

harshthakur@kccemsr.edu.in, ombodke2022@kccemsr.edu.in

sahilguhagarkar2022@kccemsr.edu.in, aryaredkar2022@kccemsr.edu.in

Abstract: *As technology improved, object detection, which is connected to video and image analysis, caught researchers' interest. Earlier object recognition techniques are based on hand-crafted features and imprecise architectures and trainable algorithms. One of the main issues with many object detection systems is that they rely on other computer vision methods to support their deep learning-based methodology, which leads to slow and subpar performance. In this article, we present an end-to-end solution to the object detection problem using a deep learning based method. Visually impaired people have difficulty moving safely and independently, which interferes with normal indoor and outdoor work and social activities. Similarly, they have a hard time identifying the basics of the environment. This paper presents a model for detecting objects with an external camera and identifying facial features from human datasets.[2]. Object detection is a department of pc imaginative and prescient that appears for times of lexical entities in photographs and videos. The gadget makes use of the ESP-32 Cam's digital digicam to continuously seize severa frames, which can be sooner or later converted to audio segments*

Keywords: Deep Learning, ESP32 cam, Machine Learning (ML), Scene Recognition