IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 4, June 2024

Object Detection

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Abstract: *With applications in image identification, augmented reality, autonomous driving, and surveillance, Itis crucial to this computer-vision. In this project uses sophisticated deep learning techniques to accomplish the thing detecting in Python. It makes use of neural networks using pre-trained convolutions (CNN) models, It is Used YOLO (You Only Look Once) or SSD (Single Shot Multibox Detector) in picture or video feeds to locate and identify things.*

Using popular libraries like PyTorch and Tensor Flow, when in this replica is developed, trained, and implemented using thispython programming language. Preprocessing procedures for handling incoming data, model training using annotated datasets, and inference on fresh photos or video frames are all included in the implementation. Additionally, the project investigates how accelerate inference so that real-time applications can use it.Evaluating the object identification system entails calculating important performance measures like F1 score, recall, and precision. The outcomes demonstrate how well the model can locate and recognize items in various circumstances.

This work adds to the expanding machine vision and offers a useful manual for utilizing Python to achieve object of affection. The implementation's modular and flexible design makes it simple to modify for different use cases and datasets. The project's results demonstrate the possibility for more breakthroughs in practical uses, encouraging innovation in fields including image processing, autonomous systems, and surveillance.

Keywords: YOLO