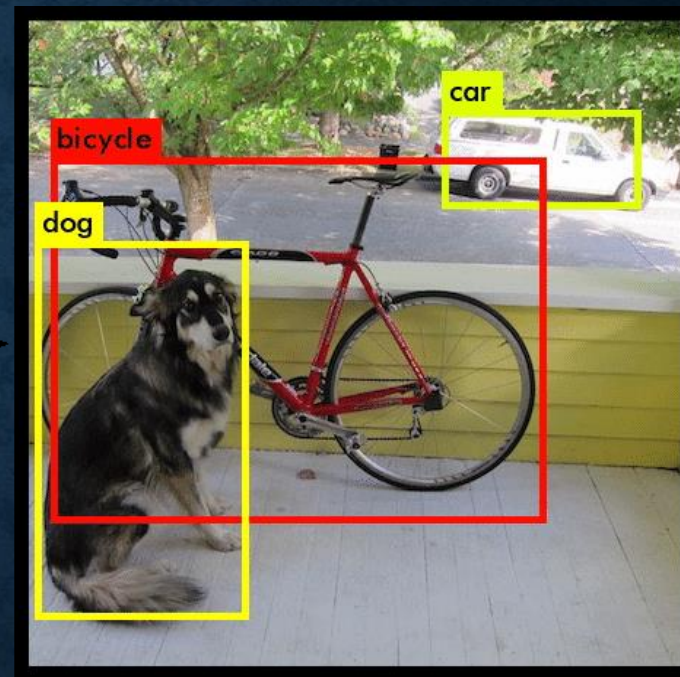
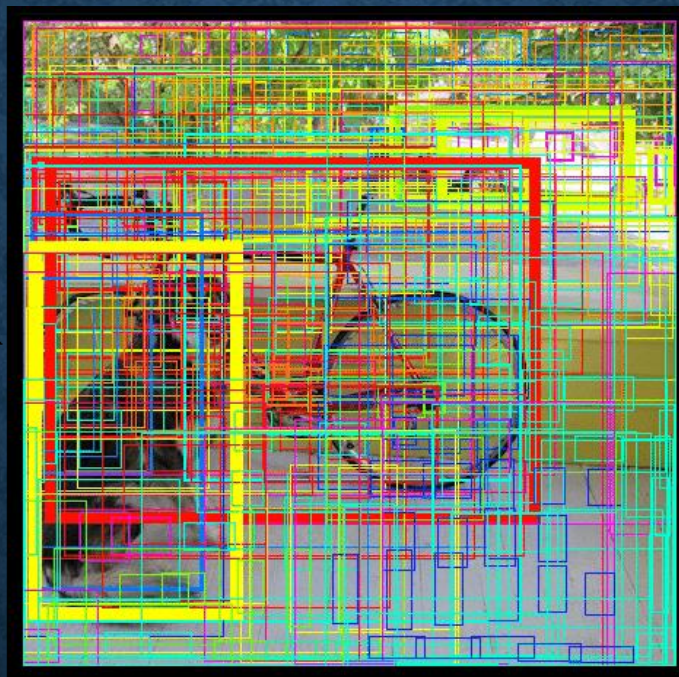
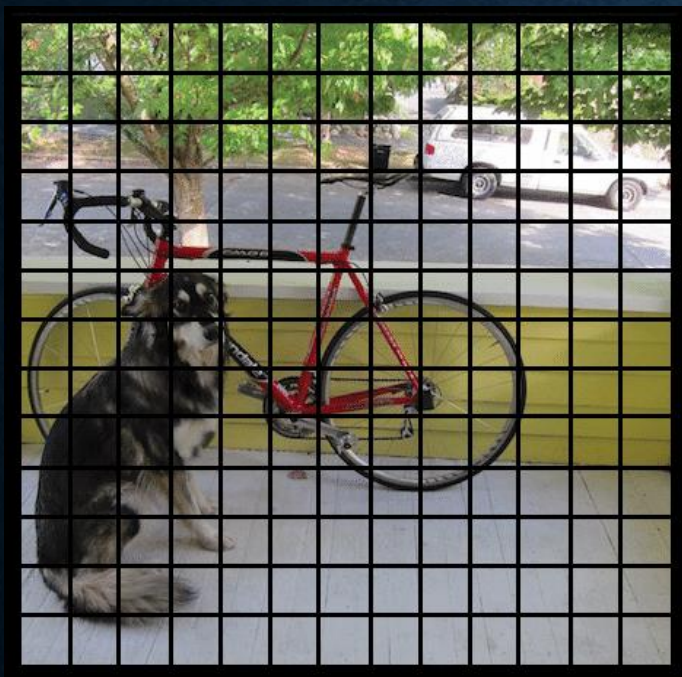




REAL-TIME OBJECT DETECTION AND ANALYSIS USING YOLO MODEL

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22B0999



DESCRIPTION OF PROBLEM STATEMENT

- ❑ The primary objective of our project is to employ the YOLO (You Only Look Once) model for real-time object detection in CCTV recorded footage.
- ❑ The project involves developing a system for real-time object detection in video streams using the YOLO (You Only Look Once) model.
- ❑ The objective is to accurately identify and localize objects within video frames, generate visual feedback in the form of annotated images, and provide detailed information about each detected object's name and detection accuracy.
- ❑ Additionally, the project aims to produce a dictionary for each processed image, capturing the detected objects along with their corresponding counts.

PROPOSED SOLUTION:

- ❑ Our solution leverages the advanced YOLO (You Only Look Once) version 8 model to perform real-time object detection on CCTV recorded footage. By analyzing frames from the video stream, YOLO rapidly identifies objects, providing accurate bounding box coordinates, object names, and confidence scores.
- ❑ This approach ensures swift and precise detection, enabling efficient monitoring and analysis of objects within the recorded footage.

CODE OVERVIEW:

- ❑ I employed the MoviePy library to convert the video into images, maintaining a 15 frames per second rate.
- ❑ These images were then processed using YOLOv8 to create annotated images with bounding boxes, object class labels, and detection accuracy.
- ❑ Additionally, text files containing box coordinates and object class indices were generated for each image.
- ❑ An empty dictionary was initialized and updated to keep track of detected object occurrences.
- ❑ This streamlined process enables effective video analysis and object tracking.

MY GITHUB REPOSITORY LINK:

[HTTPS://GITHUB.COM/CHARITHA-77/YOLO-CAM-BASED-OBJECT-DETECTION](https://github.com/CHARITHA-77/YOLO-CAM-BASED-OBJECT-DETECTION)