


Video Analysis System


Real Time Video processing through OpenCV
library and MobileNet SSD Model.



What all Models are available for Object Detection?

All these models have been in use for real-time detection of objects in a video:-

1. YOLO
2. Mobilenet SSD
3. Faster-RCNN(Recurrent Convolutional Neural Network)



Why choose Mobilenet SSD model for my project?

Mobilenet is a SSD(Single Shot Detector) type model. Which tends to perform faster which is required if we want to do real time analysis.

SSD, a single-shot detector for multiple classes that's quicker than the previous progressive for single-shot detectors (YOLO), and considerably a lot of correct, really as correct as slower techniques that perform express region proposals and pooling (including quicker R-CNN). The speed vs accuracy trade-off is modest in Mobilenet SSD.

How fast is the processing for a Demo Video?

Case 1

I have taken a 29.97 fps video. With a resolution of 640x360 and data rate:406.56 kbit/s and getting a processing speed of around 10/11 FPS in MobileNet SSD.

Case 2

I was getting around 3/4 frames per second processing speed when switched to live webcam feed, with a resolution of 1280x720.

MobileNet SSD(Offline)

FPS of Video:- 12

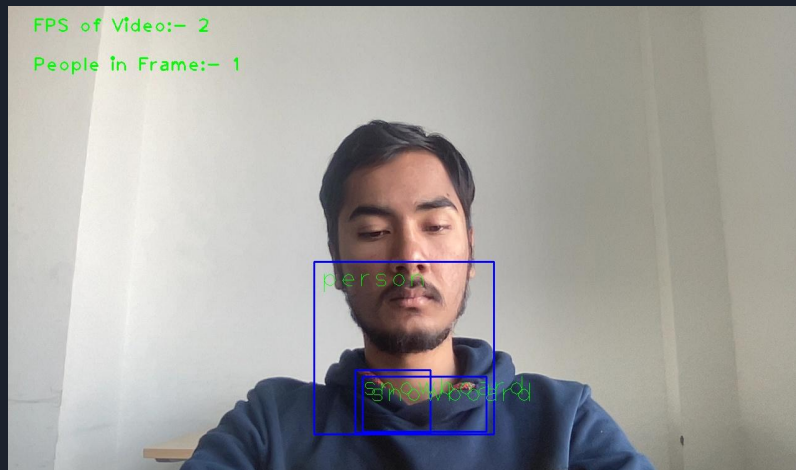
People in Frame:- 2



MobileNet SSD(Online)

FPS of Video:- 2

People in Frame:- 1



Structural Flow of Program

