

# VIDEO ANALYTICS -VIDEO SYNOPSIS WITH REVERSE OBJECT SEARCH

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## Content

- Input data Format
- Model Functions

## Problem Definition:

A huge amount of CCTV video data is being collected overtime. It is tedious to analyze all the data together. The model tries to summarize the entire data by first splitting the videos, time-tagging all the recognizable objects in each frame and combining them to make a summary over time. The number of splits or folds are user defined. Also, during the above processing we get what objects are present in a given video. Having this information at hand, we can then search for only those frames in which our desired object is present.

## Data Input :

Input data is in form of videos.

## Analysis:-

A pre-trained yolo object detector is used to detect objects in all the frames of an input video. The detections generated are then used by a deep learning based tracking algorithm for tracking and time tagging. The resultant video after both the processes is then divided into user defined splits and then merged to make a synopsisized video. Also, a user can input an object name to be searched in the video using reverse object search.

## MODEL - VIDEO SYNOPSIS WITH REVERSE OBJECT SEARCH

## Implementation

1. A user provides path to input video on which preprocessing happens and the intermediate results are stored.
2. Given the number of splits of a video a user wants, the video can then be synopsisized.
3. Also, a user gets a list of objects present in a video, a user can select an object of choice and can find only those frames in which the desired object was present.

## Installation instructions

Detailed installation instructions are at:

[https://github.com/paradigmC/video-analytics/tree/master/video-analytics-api/city/bangalore/video\\_synopsis](https://github.com/paradigmC/video-analytics/tree/master/video-analytics-api/city/bangalore/video_synopsis)

## API documentation

Detailed API documentation is at:

[https://github.com/paradigmC/video-analytics/blob/master/video-analytics-api/city/bangalore/video\\_synopsis/Video-Synopsis-And-Reverse-Object-Search.ipynb](https://github.com/paradigmC/video-analytics/blob/master/video-analytics-api/city/bangalore/video_synopsis/Video-Synopsis-And-Reverse-Object-Search.ipynb)