Object Detection, Tracking and Classification

Problem Statement:

To Develop a System that can Detect and Track the Objects in a video stream.

Description:

The Problem statement has two sub parts, which will be done separately by two different teams.

a) The aim of the first task will be to train an Object Detection model for detecting Vehicles in a Video Stream and Track them.
b) Second task will be Person Detection in a Video along with tracking their movements and making a classification on gender.

Requirements:

1) Training and Object Detection Model
2) Tracking with Multiple trackers available and selecting the fastest and accurate one.
3) Classifier on top of detections.

Expected Outcome:

A Flask server where users can upload the input videos on which detection is to be made and download the output video with Bounding Boxes. A web page to show all the unique people that were captured in the video.

Tech-stack:

Deep Learning, OpenCV, Flask server, Web Development