



# Accident Detection and Response System

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## Abstract of Project

In recent times due to rapid development in the infrastructure of roads, there has been an increase in the number of vehicles on the road which in turn also increases the risk of road accidents. There have been many incidents in which the victims have lost their lives or suffered tragic injuries due to delays in response by the emergency services. With the breakthroughs in the area of Object detection made possible by the advancements in the field of Neural Networks, it is now possible to design a system with a decent amount of accuracy. Thus, our project seeks to address the aforementioned problem by using a reliable, efficient, and fast object detection algorithm to design a robust accident detection and response system.

## Project Outline

- Admin logs into the portal where various tabs are available
- Admin clicks on Check It Out tab in the sidebar
- If "On the Image file" is selected, a new webpage opens where admin can upload an image and click on Send to perform accident detection
- If accident is detected, then an e-mail address is randomly fetched from the database and an e-mail alert is sent to that address containing the confidence score of the accident detected
- If "On the Video file" is selected, a new webpage opens where a video is streaming and admin can click on ON/OFF button to perform accident detection and response mechanism is same as stated above

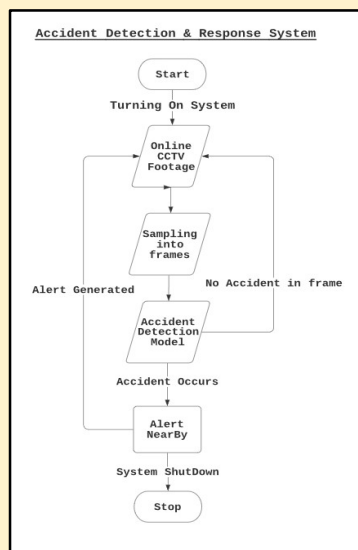
## Project Modules

- Admin change password module
- Check It out module : Accident Detection on
  - Image file & Video file
- Comparison & Evaluation of custom trained object detection models (YOLO v3, Faster RCNN, SSD MobileNet)
- E-mail based alert system
  - Fetching receiver email address from database
  - Sending the alert email

## Project Application

- The traffic police can use for accident detection in high accident-prone areas.
- It can be used by government bodies like the Ministry of Transportation to find out the causes of accidents and design solutions to reduce the number of accidents.
- It can also be used by researchers to develop more efficient accident detection systems.

## Project Flow



## Results

### Accident Detection

Options

Flip horizontal: ☐ Gyrf ☐ Run detection model: ☐ Gyrf ☐

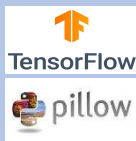
[Back to Portal](#)

**Alert !! nearby accident detected !**

**dummy 1** <flashback.0107@gmail.com>  
to me ▾

An accident having the confidence of 99.0% is detected !!

## Technologies Used



## Project Guides

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Prof. Dipa Soni

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## Subject Code: CP442

Subject Name: Project - II