Vehicle Speed Monitoring

> An intelligent alarm system that could be used to monitor vehicle speed

Overview

Vehicle speed monitoring is a system that uses cameras to monitor the speed of vehicles on a road. It is used to enforce speed limits and calculate fine amounts, as well as to manage the flow of traffic. It is also used to detect vehicles that are travelling at an unsafe speed for the conditions, such as when the road is wet or icy, or when there is heavy traffic.

Vision AI based monitoring

VisionAI based monitoring technology can be used to monitor and enforce vehicle speed in the workplace. With our Vision AI monitoring you can authorize access as well as continuous monitor live feeds inside a restricted area for real-time detection of unauthorized personnel. Our fully automated detection models are not only more powerful and accurate than existing systems but also more affordable and easy to integrate into existing infrastructure allowing users to scale the power of i-based real-time detection with a few simple clicks.

Events

VisionAI model's generated events would be:

- Vehicle speed detected above the speed limit

It is recommended that any instance of such events be reported to the appropriate authority. An event data may include information such as:

- Date and time of the event
- Location of the event
- type of event (speeding, etc.)
- Image of the event
- Video of the event
- Vehicle license plate number

Configuration

Camera setups can be used to detect and enforce vehicle speeding in the workplace. The location of cameras to monitor vehicle speeding will depend on the specific policies being enforced and the nature of the work environment.

Model Details

Dataset

The dataset consists of images and videos collected from diverse sources and is designed to reflect real-world scenarios. It is evenly distributed with;

- *Different environments*: Both indoor and outdoor with varying/contrasting surrounding and infrastructure details
- *Different lighting conditions*: Day and night with varying light intensities
- *Different camera angles*: Front, side, and rear views
- *Different vehicle types*: Cars, trucks, buses, and motorcycles
- *Different vehicle colors* etc.

Model

The model to monitor enforcement of vehicle speeding event is in progress and it will be released soon.

Scenario details

The business logic for this scenario is as follows:

- We use existing camera feeds from the premises to monitor vehicle speeding events.
- VisionAI system is able to run on edge devices. It uses camera feeds for processing.
- We detect vehicle speeding event in the camera feed, an alert is raised.

Test now with online Web-Cam

To test this model & scenario, you can use the following steps:

- Install the visionai package from PyPI

```
$ pip install visionai
```

- Test the scenario from your local web-cam

```
$ visionai scenario test vehicle-detection

Downloading models for scenario: vehicle-speeding-detection
Model: vehicle-speeding-detection:
https://workplaceos.blob.core.windows.net/models/yolov5s-people/yolov5s-
people-0.0.4.zip


Starting scenario: vehicle-speeding-detection..
```

- You should be able to see the events generated on your console window with the monitoring of vehicle speed event within the camera field of view.

With RTSP Camera - Pipelines

[TODO]

With Azure Setup

VisionAI app is available at a Azure Market place, one can download and use it by following steps mentioned here

Features

VisionAI based vehicle speed monitoring can offer several features to enhance vehicle monitoring and policy enforcement. Here are some examples of features:

- **Vehicle speed monitoring**: VisionAI can be used to monitor vehicle speed and enforce speed limits. This can be used to enforce speed limits and calculate fine amounts, as well as to manage the flow of traffic. It can also be used to detect vehicles that are travelling at an unsafe speed for the conditions, such as when the road is wet or icy, or when there is heavy traffic.
- **Vehicle speed detection**: VisionAI can be used to detect vehicle speed and alert when a vehicle is travelling at an unsafe speed. This can be used to detect vehicles that are travelling at an unsafe speed for the conditions, such as when the road is wet or icy, or when there is heavy traffic.
- **Vehicle speed enforcement**: VisionAI can be used to enforce vehicle speed limits and calculate fine amounts. This can be used to enforce speed limits and calculate fine amounts, as well as to manage the flow of traffic.

Training with custom data

The scenario is provided as part of our GPL-v3 package for VisionAI. If you wish to train this with custom datasets, please contact us and we can provide you with the training code. You can do custom training with your own datasets for free, as long as it complies with GPLv3 license (you give back the code to the community). If you are interested in a custom license, please contact us.

Contact Us

- For technical issues, you can open a Github issue here.
- For business inquiries, you can contact us through our website.