Gifted Education Fund

AIoT Coding, Engineering and Entrepreneurial Skills Education for Gifted Students

Keeping Streets Safe

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Objective/Background/Motivation

- ***Traffic accidents caused 1.35 million deaths on roads in 2016 alone***
- ***This is mostly due to ignorance of road safety rules and traffic habits***
- ***Monitoring of driver and pedestrian habits can help to reduce traffic accidents***
- ***I plan to create an automated system in which road traffic is monitored***
- ***By taking factors like pedestrian count and maximum vehicle speed into account***

Existing Solution

- ***In China, CCTV cameras around roads are already used to monitor road conditions***
- ***However, they only process image recognition data and cannot do much to prevent drivers from violating traffic rules***
- ***Traffic recognition makes use of computer vision to detect vehicles and pedestrians as well as figure out car plates***
- ***The video stream is sent directly police force and other law enforcement for ease of tracking of the vehicle.***

Your Solution

- ***Design a smart monitoring system with computer vision to determine the speed of vehicles, the locations of any road obstacles and pedestrians.***
- ***Determine if the speed of vehicle violates any specific rules / laws regarding such road***
- ***Notify the driver about the violation of traffic regulations with a text message / app terminal by combining supervised learning (SVM), linear regression and computer vision***

Equipment Needed

- **Camera**
- **IR Distance Sensor (Possibly)**
- **Board**

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