Traffic Violation Detection System

Domain Knowledge

As soon as there were vehicles on the road, need for the traffic rules was felt due to recurring accidents which could be prevented by following simple rules. Out of the necessity traffic rules were introduced to prevent such accidents. Later as the number of vehicles grew more rules were added to make the road more systematic.

Traffic on road is one of the major problems of Kathmandu valley in recent times. Over the years, number of vehicles on the road have increased dramatically while infrastructure and road conditions remain the same. This has caused a lot of problems to the public. Sometimes people get stuck in traffic for hours.

To keep everything in order and to prevent accidents from happening many traffic rules are enforced on the road. These rules must be followed by all the civilians. With exception of some vehicles like ambulance and VIP vehicles.

Some of the traffic rules are:

You cannot cross the lane if the road marking has solid white line between the lanes.

You can cross the lane if the marking has dotted white line between the lanes by indicating and taking necessary precautions.

You cannot drive over the speed limit.

When the traffic rule is not followed it is called traffic violation. If traffic rules are violated then people are made to pay fine in accordance to the violation committed. For example: if a driver fails to follow the basic lane rule by even touching the markings dividing the lane driver is fined from 500 to 1000 rupees. The violator should pay the fine from the bank which is approved by the traffic police.

Detection system is the software that is used to monitor the violation. Traffic violation detection system is the software that uses different methods to detect the violation committed by the driver. Real time object detection is used to detect the objects in the system using only video. Video footage from the Closed Circuit Television (CCTV) is used as the data input for the system. The data is processed in the system and with enough input fed to the system it can recognize the object. Real time object detection software can recognize the vehicles in the road and can know if the vehicle has committed any violation like speeding, violating lane rules, etc.