Department of Information Technology
NBA Accredited

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UNIVERSITY OF MUMBAI

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A Project Presentation on

Automatic Number Plate Detection

Submitted in partial fulfilment of the degree of
Bachelor of Engineering (Sem - 6) in

INFORMATION TECHNOLOGY

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1.Project Conception and Initiation

1.1 Objectives

- To make an application that will be detecting number plate & helmet from moving vehicles.

- To eliminate human work time by adding this system into traffic management sector.

1.2 Literature Review

YEAR	NAME	TECHNOLOGY & ALGORITHM	ADVANTAGES	DISADVANTAGES
2020	A Review Paper on Automatic Number Plate Recognition System Using Machine Learning Algorithms	OpenCV GSM	Used in live cameras	Less accuracy since objects are moving in real time
2019	IEEE:-Automatic Number Plate Recognition	OCR(optical character recognition)	Can read all charcters and Digits from number-plate captured	Unable to read characters and digits from number plates other than white plates
2013	ANPR- International Journal of Computer Applications	CCA	Low hardware requirement	Very low accuracy

1.3 Problem Definition

- Nowadays, all around the world there are major accidents taking place due to which people are losing their lives. Not wearing helmet is one of the major causes of death. The death rate can be decreased if people start wearing helmets.

- So, penalizing the people not wearing helmet will make people wear helmets causing decrease in death rate and ensuring their safety.

- It is difficult for humans to start penalizing every person without helmet. So, there is a need of system that detects a license plate from a two-wheeler so that the person without helmet can be penalized.

1.4 Scope

- This system can be implemented in real time.
- It can be very helpful in the traffic management system as it is minimizing the workload of a authority in-charge.
- This system can be placed on traffic-signals for effective use so it can capture the whole area of a road.

1.5 Technology stack

- OpenCV
- Numpy
- Imutils
- YoloV3
- CNN

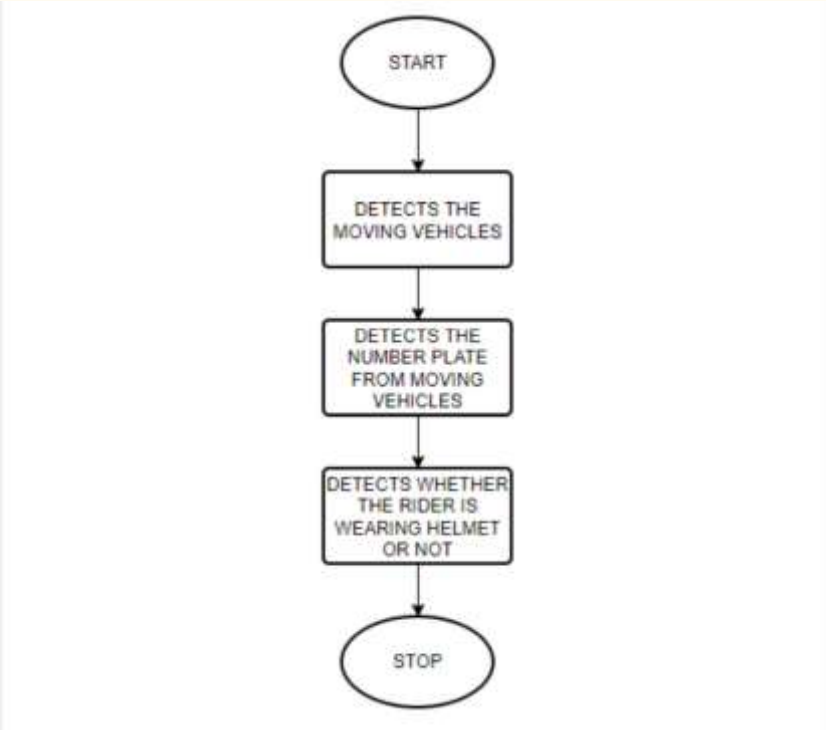
2. Project Design

2.1 Proposed System

- This project aims to recognize number plates from moving vehicles.

- After detecting the number plate, it will detect whether the rider is wearing a helmet or not.

2.2 Design(Application Work flow)



3. Implementation

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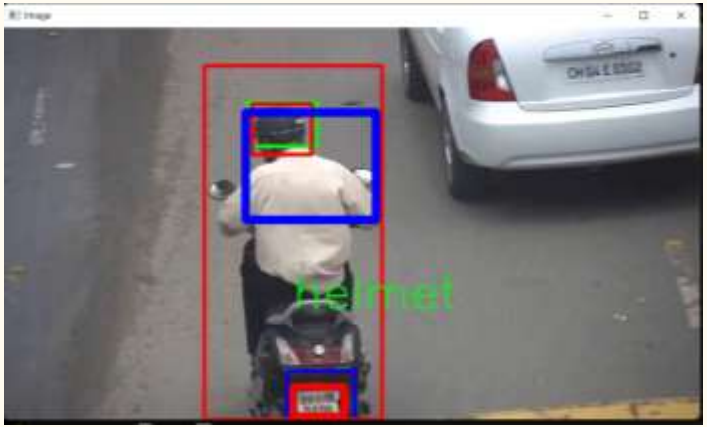

4. Result

4. Project Outcomes

- System is able to detect moving vehicle on the road.
- System is able to detect number plate from the moving vehicles.
- System is able to detect whether the rider is wearing a helmet or not.

5. Conclusion and Future Scope

5.1 Conclusion

- In this project, we have developed an application to detect number plate and helmet from a moving vehicle.

- From the above results, we can conclude that number plate recognition and helmet detection will perform better as the quality of the camera used for scanning the plate and detecting the vehicles and helmet will be excellent.

- Using low quality camera will degrade the performance and may misclassify the result.

5.2 Future Scope

- Can be connected to cctv cameras to work in real time.

- Can be combined with database system to keep track of vehicles.

References

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Thank You