

# Helmet and Number Plate Recognition and Detection

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**Abstract:** In the current conditions as we all know that death rate by road accidents are increased more and to control that government has made wearing helmet is necessary for two wheelers for this rule who are not up with this they are recognized and punished , not in every situation traffic police can handle this because of some issues and from irresponsibility it may fail. Currently traffic police man are facing problem and risky to handle all the consequence. Hence this condition has given a break through. People who are not wearing helmet they are easily detected and captured in camera automatically by the computer organization and hence it recognize the vehicle and then it will notice and saves the number plate image and hence the saved data is sent to the certain officers to get details and also for the further actions. It is mainly built with advance technologies with varies consequences that may deals with. YOLOv3 is used to provide best visualizing effects for the image. Non-helmet riders are recognized

**Keywords:** Helmet detection, Number plate recognize, Deep Learning, Traffic rules

## **I. INTRODUCTION**

Main source and agenda of this Project is to provide safety measures and to take up their life without any risk. The conditional way to implement project in real world by using advance technology and also there connections towards life, this project is also mainly for traffic police to make their job more easy and convenient and this is used to recognize the riders whether they are wearing helmet or not .If they are wearing helmet they are considered as not a problem and they are ignored and if they are not wearing helmet they are recognized and detected them and also it used to capture their image and also number plate and hence it is saved. Next for the further process it used to send for the RTO office to fetch the details of the vehicle holder and if any warning are necessary with that the penalty fees is sent to that owner he has to pay penalty and next time he should be safe while riding two-wheeler. Here we are mainly consisted the advance technologies for their implementations YOLOv3 is used for to get clear visual effects for the recognize and detection You only look once is the full form of YOLO it is the algorithm that is mainly used for object detection in the real-time in images or video that captures it mainly as some conventional neural network for identifying objects . It is organized and well trained that the riders who were not warning helmets are detected and recognized in color red and they are captured and if they were wearing helmet and safe it is used show in green color for that they are ready for the implementation. Deep learning is the concept that is mainly used because it does not want any cross platform it is mainly implemented on machine learning and artificial intelligence and they will behave likes the humans in some certain conditions and type of knowledge. Here they are additionally used for data. It is mainly used for the automatic sensation like self-drive cars and other to detect automatically it is processed and we are also implemented this for the detection of non-helmet holders and record the status and then the details sends to the authorizer for the further

This is mainly used for safety and user convenient to avoid road accidents and also giving worth for people life to avoid injuries and they are more accurate.

## **II. LITERATURE SURVEY**

[1] Aditya Rao In the current environment has we all know that how the conditions facing in urban areas .The n who rides the motor cycle should be proper , vehicle holders should be careful nowadays Road accidents are quite common in the cities.

So much people losing their life due to this accident , Know Government taking strict rules to every citizen So traffic police which handle the privately in signals or road junctions or they use to monitor them using CCTV footages and then they are detected and then they charge penalty to the people who are not wearing helmet.[2] It is also automatically generated by system and easily identify the people and then they used to get the details of the vehicle . The CCTV footages are classified to the Motor cycles who are wearing helmet and non-helmet holders and also detect and classifies Motorcyclist and Non-Motorcyclist for identifies Motorcyclist it will check

the whether helmet is there or not in head if it not there it will immediately report and scans the number plate and then it is saved and stored if he is helmet holder and then it is Ignored the system arranged and made gives full accurate results . [3] It will capture the images of the people and vehicle if he is not wearing helmet. Nowadays number of vehicles increased to give the solution for this problem wearing helmet is necessary problem statement is mainly of that is implemented toward non-helmet riders. Here we also implemented YOLO it is abbreviated as You look only once the connected with v3 effect it is mainly used for visual detection and its clarity. [4] After using this conditional implementation, the data, we see less number injuries and death in the accidents and it is mainly used to overcome this traffic violation the conditions also YOLO used for their sliding process for the detection. Automatic number plate detection and then it is mainly implemented by the different analysis and also various methods and also their conventions this is very user friendly idea for peoples security[5] The region of interest is mainly used for the various conventional processing needs by various methods conventional network is also implemented for the detection if they don't use helmet image is captured by camera and then it is mainly organized and also mainly connected to the different analysis then if they want to check they will move to the RTO and they used to provide more details of the following vehicles[7] Optical character recognition is mainly consider with different analyzation for increasing accidents are mainly organized and provided there various terminologies. The above perception and expectations are mainly collected for their good and safe journey It is mainly implemented in many country and different states as well It is developed decrease the life risk and they can also send their consist feedback about the condition to the government they provide the cautions and the conditions to the each and every motorcycle rider.[8] Here it as main focus high precision and also every methods will organized by its different content it is mainly formatted for double riders also the people who are mainly organized and also who are sitting behind the rider also should wear helmet the rules also further notices and announced by department for helpful condition for motor riders it is mainly used for the safety Many safety measures are also used and prohibited for the people to their lives and also their conditions used for YOLOv3 is mainly for captures images clearly for the detection and also it is mainly used if it again the same vehicle came again if he again repeats the same as not wearing helmet means he will undergo complaint and he should pay penalty [9]The people should follow the various measures of government that they had more life risk while travelling in the motorcycle half covered helmet is not properly necessary by the different analysis for their formal methods and also there conditional implementation towards data as set for to avoid road accidents and injury. They used to help society by their advance technology to recognize the people who are not wearing helmet and also they are not they will detected by camera and also they are charged by the penalty and there conditional method of implementation by using advance camera and their screen recording way of process by the different analyzation methods.[10] People life are important by this thought if they had major accidents they should be safe and also their condition of their families in this reason the it is necessary to wear helmet in the current situation so non helmet riders are noticed and also there number plate is detected and charges if they use helmet hence they are ignored to identify this advance technology is implemented

### **III. METHODOLOGY**

Methodology is mainly consist of conditions and as well process of the project that are mainly organized. It is also mainly include some technique and also there procedures which are mainly implemented by many formalities that are also used for several conditions and also there specific task and series of their steps are also mainly consist of different methods and mechanism that are may consist of different project phase.

This section is consisting of different conditions that may include some various conditions in the different organizational way that it also follows some methods in it for the various techniques and also there consistence by the different organization. It also consist of Agile method is mainly has its different way of consisting and managing the project by the several parts and also breaking up of it also mainly consist of this various collaboration also includes different process in it the process are follows are planning, evaluation, executing and also they will format by different conditions that how the peoples are mainly used by their condition also managed by different format by using CCTV footage the conditions are also follows that peoples who are not wearing helmet are also considered as wrong practice and they are recognized in red and they are led to the penalty. And they were wearing helmet are consider as safe and they are not recognized if they were not wearing helmet hence they were considered as danger and there number will be recognized and detected

The following diagram mainly consist of their methods are also follows that also implemented by their different conditions that may also conditions that may also include the various methods that they are considered with various diagram that if they were not wearing helmet are also variously implemented by the system that they were not hence they will not processed they are detected and hence if they were condition and wore helmet hence they are considered as safe and they are organized.

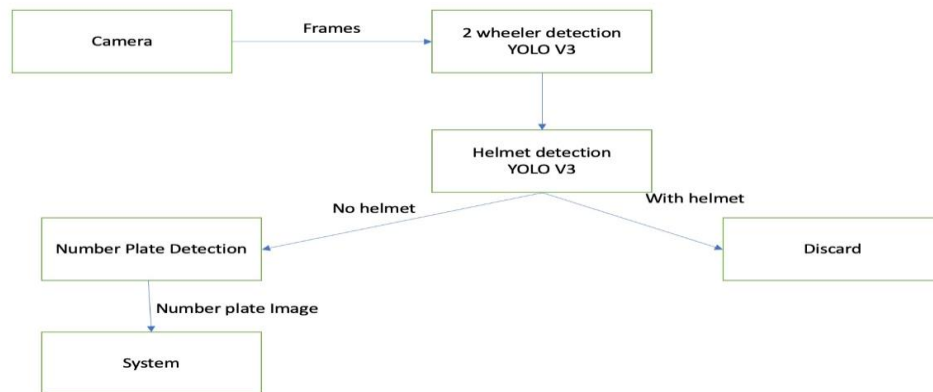


Fig 1. Method of detection

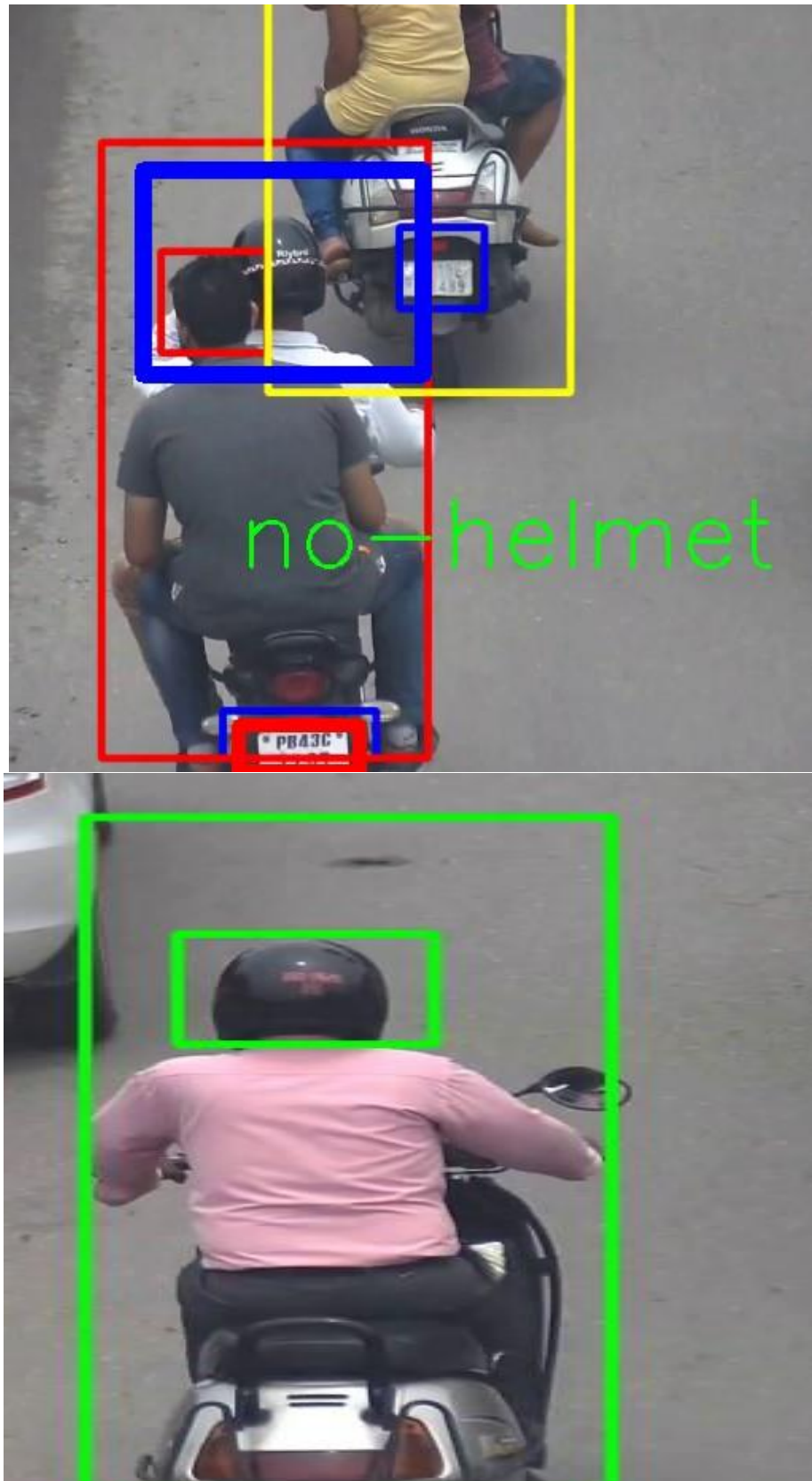
## IV PROPOSED SYSTEM

The majority of Peoples life are in risk they have to conditionally format and implement the major rules and regulations, So government as introduced this new concepts as it is implemented in many streets, roads and flyovers that are used for safety measures of the peoples to avoid them getting injured here CCTV is arranged to monitor people drive and any motorcycle rider does not wearing helmet they were recognized and detected by several conditional facilitated with their condition and main agenda of this to reduce the life risk.

Here mainly we have ease to peoples that are mainly consider as who wear not wearing helmet are noticed and then they are recognized and CCTV will capture the image of number plate and the information sends to RTO office to get the details of the rider and motorcycle who is not wearing helmet and then the condition applied for people who is not wearing helmet and they were leads to the penalty.

For this project we are implemented many tools and advance technology is provided to detect the conditions here use of the YOLOv3 is used to get the very good clarified images and for the better visual effects and they are used for real-time object detection that is mainly used for the identifying the specified objects or things. It is mainly consist of the Convolution Neural networks that are mainly used to sense the object in the proper guide this is invented by Joseph Redmond and Ali farad. It has better speed as well as it has mainly implanted by various technology better than SSD it is having high accuracy and the different conditions as well and This technology as trained with different analysis and the conditions that if any they is not wearing helmet it is recognized in red and then image is captured and then if he is wearing helmet and it is considered as save and showed in green and also implemented in their own conditional value that are mainly organized and then it was implemented for every motorcycle riders that are also implemented by different analyzation that may considered as their safety measures and they are implemented and then it is mainly formatted and by using deep learning and machine learning it is used to know the human thinking implemented in machine as they are mainly recommended for them to use predictive model.









#### IV. CONCLUSION

The main aim for this condition is mainly implemented by the various methods and the conditions are also used and implemented by many of the methods that are used to take safety precautions about the various measures for the people who are not wearing helmets and then if they are not wearing helmet then they are recognized and then noticed and imaged captured by camera and then the number plate is detected and then are processed and then they have been sent to RTO office and collected there details and then they are undergo with penalty chargers and if they are wearing helmet they are considered as safe. Hence they are implemented for the sake of peoples to avoid there road accidents and injuries and to reduce life risk of the people dies in accident

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