# Automatic Detection of Helmet using RCNN and SSD Mobile Net

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**Abstract:** *Bicycle accidents were on the rise in a number of countries at the time. Over 37 million people ride bicycles in India. As a result, it's critical to develop a framework for automated head-protection detection for street safety. In this way, a bespoke article placement model is created based on a Machine Learning computation that can distinguish Motorcycle riders. The License Plate is extracted and the License Plate number is read using an Optical Character Recognizer when a Helmetless rider is discovered. This application can be run in stages, using information coming from a Webcam or a CCTV. Any intelligent traffic framework must include automated detection of offenders of traffic rules. Bike is one of the most important modes of transportation in a country like India, where the population density is great and cities are often vast. The majority of motorcyclists avoid wearing caps in cities or on highways. In the vast majority of motorcycle accident cases, wearing a cap can reduce the risk of head and severe cognitive harm to the rider. The great majority of traffic and safety violations are now identified by examining traffic recordings captured by reconnaissance cameras. This study presents a system for identifying single or many riders who ride a bike without wearing a helmet. In the suggested method, bike riders are identified in the first stage using the SSD-Mobile Net model, which is a stable version of the cutting-edge object identification methodology SSD-Mobile Net model. A territorial-based Convolutional Neural Network (RCNN)-based engineering has been proposed for the discovery of bike riders' head protectors in the following step.*

**Keywords:** Bicycle accidents

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