

Helmet and Number Plate Detection using Python and Open CV

Shweta Ghatge, Sakshi Deshmukh, Samruddhi Deo, Kusum Karande, Jyotsna Nanajkar

Department of Information Technology

Zeal College of Engineering & Research, Pune, Maharashtra, India

Savitribai Phule Pune University, Pune, Maharashtra, India

Abstract: Due to the high accident rate and bad road conditions, it is now essential for all bike riders to wear a helmet. There are laws in place that require the wearing of a helmet. However, they now entail human intervention, which has not been demonstrated to be very effective because bike riders occasionally get away with disregarding safety standards such as not wearing a helmet when riding. Automation is both efficient and a superior approach to deal with this issue, but it comes with its own set of problems. To name a few examples, Rain, moisture, and fog, as well as partially covered faces, make for low-quality image frames (low image resolution, pixel density, and so on). As a result, the detection methodology's robustness is greatly influenced by the strength of extracted characteristics as well as the ability to cope with the extracted data. The project's first goal is to improve the effectiveness of helmet detection before moving on to license number plate identification. This model is made up of a number of key phases that were created most modern and optimal image processing techniques available today. This model is a classification-based model that is trained using a supervised learning approach. Even in poor settings, the proposed helmet identification model can identify helmets and recognize license plates.

Keywords: Helmet Detection, Number Plate Detection, Image Processing, etc

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