VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A PROJECT REPORT ON
"AUTOMATIC LICENSE PLATE DETECTION AND RECOGNITION"

Submitted in partial fulfillment for the award of Degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

By

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ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

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CERTIFICATE

This is to certify that the project entitled "AUTOMATIC LICENSE PLATE DETECTION AND RECOGNITON USING DEEP LEARNING" has been successfully completed by

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the bonafide students of **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2020–2021. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

Recognition of cars is very important for the control and surveillance systems. Automobiles can be recognized by number plates, which contains a unique combination of alphabets and numbers. However, it's a hard and intensive job for humans to manually recognize all the parked or passing car number plates. In this paper, we approach a training-based pathway for vehicle number plate recognition. Most of the previous works in automatic number plate recognition (ANPR) systems have limitations in their working conditions, like for example restricting them to stationary backgrounds, indoor area, restricted vehicle speeds, prescribed driveways, fixed illumination, or match the predefined distance between camera and vehicle. The main objective of our work is to create a robust number plate recognition model that works under different illuminations and angles. We created our recognition model by training on our manually collected car number plate dataset using YOLO-V3. The algorithm has been tested over 640 images which are of different colors, and illuminations. In this project, an efficient approach has been proposed to localize every clearly visible object from an image. For object detection we have processed every input image to overcome several complexities, to achieve better result we use object detection algorithm. We will also implement Convolution Neural Network based on object detection model i.e YOLO-V3. Finally, single character within the registration code is detected. The aim is to indicate that the planned technique achieved high accuracy by optimizing numerous parameters that has higher recognition rate than the standard ways.