VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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MINI PROJECT REPORT

OF

AUTOMATIC VEHICLE HEADLIGHT DIM DIPPER

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CERTIFICATE

Certified that the mini project work entitled ***"AUTOMATIC VEHICLE HEADLIGHT DIM DIPPER"*** *is a bonafide work carried out by*

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in partial fulfilment for the award of **BACHELOR OF ENGINEERING** in **INFORMATION SCIENCE AND ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM** during the year 2022-2023 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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Project Guide

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ABSTRACT

The "Automatic Vehicle Headlight Dim-Dipper " describes a novel system designed to enhance road safety and driver comfort by automating the control of vehicle headlights. In this innovative application, an ESP8266 microcontroller is employed to intelligently adjust the headlight intensity and orientation based on real-time environmental conditions and the presence of other vehicles on the road.

The primary objective of this system is to mitigate the risk of blinding oncoming drivers and to reduce energy consumption by optimizing headlight output. To achieve this, the ESP8266 is equipped with various sensors, such as ambient light sensors and proximity sensors, enabling it to continuously monitor the surrounding environment. By processing this data, the microcontroller can dynamically modulate the intensity and direction of the vehicle's headlights, ensuring that they are neither too bright nor too dim under different circumstances.

Additionally, the system incorporates wireless communication capabilities, allowing it to exchange information with other vehicles equipped with similar technology. This enables a cooperative dimming and dipping strategy, where vehicles can communicate their positions and intentions, leading to a synchronized adjustment of headlights and a further reduction in glare.

The "Automatic Vehicle Headlight Dim-Dipper using ESP8266" system represents an intelligent and adaptive approach to headlight control, promoting safer driving conditions, energy efficiency, and improved overall road safety. This project showcases the potential of IoT and microcontroller technologies to enhance automotive safety and driver experience in modern vehicles.