SMART TRAFFIC MANAGEMENT SYSTEM

A PROJECT REPORT

Submitted in partial fulfillment of the requirement for the award of the degree

of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

SUBMITTED BY

Nitash Chumber (20103102)

Md Iftear Ahmed (20103089)

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Under the supervision of

Dr. Somesula Manoj Kumar
Assistant Professor

Department of Computer Science and Engineering
Dr. B. R. Ambedkar National Institute of Technology Jalandhar-144008, Punjab (India)

May 2024

CANDIDATES' DECLARATION

We hereby certify that the work presented in this project report entitled "**SMART TRAFFIC MANAGEMENT SYSTEM**" in partial fulfillment of the requirement for the award of a Bachelor of Technology degree in Computer Science and Engineering, submitted to the Dr. B R Ambedkar National Institute of Technology, Jalandhar is an authentic record of our own work carried out during the period from July 2023 to May 2024 under the supervision of Dr. Somesula Manoj Kumar, Assistant Professor, Department of Computer Science & Engineering, Dr. B R Ambedkar National Institute of Technology, Jalandhar.

We have not submitted the matter presented in this report to any other university or institute for the award of any degree or any other purpose.

Date: 9th May, 2024

Submitted by
Nitash Chumber (20103102)
Md Iftear Ahmed (20103089)
Banoth Arun (20103038)

This is to confirm that the statements provided by the aforementioned candidates are truthful and accurate to the best of our understanding. We hereby recommend them for external evaluation.

Dr. Somesula Manoj Kumar
Assistant Professor
Deptt. of CSE

Dr. Rajneesh Rani
Head and Associate Professor
Deptt. of CSE

ACKNOWLEDGEMENT

It's true that the success of a play relies on the hard work of hundreds of people behind the scenes. Similarly, the completion of the SMART TRAFFIC MANAGEMENT SYSTEM project required a great deal of guidance and assistance from many individuals. Our group was fortunate to receive this support throughout the project's development, and we are deeply grateful to all who contributed. Our achievements today are a result of their supervision and assistance, and we thank them from the bottom of our hearts.

We would like to express our deepest gratitude to our project mentor, Dr. Somesula Manoj Kumar, Assistant Professor. His belief in our ideas and his timely suggestions were invaluable. He fully supported us in overcoming the challenges we faced.

We also extend our heartfelt thanks to Dr. Rajneesh Rani, Head of the Department of Computer Science and Engineering, for her direct and indirect support.

We are grateful to Dr. Aruna Malik, Coordinator of the Major Project, for providing us with mentors and all the necessary support.

Our sincere thanks go to all the faculty members of the Department of Computer Science & Engineering for their constant encouragement and guidance. We also appreciate the timely support from all the laboratory staff.
Thank You.

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ABSTRACT

Modern cities face a significant influx of vehicles, necessitating the implementation of efficient automatic systems for traffic management and scheduling. The aim of this project is to design and implement to getting live traffic data of road using google map API and manage the traffic signal light automatically and implement the smart fine system. and show the traffic density of each road for previous months for the government to manage the highly traffic area effectively. Even this project also detects the car speed and congestion detection on road

efficient method for Vehicle License Plate Recognition (LPR) of Indian License Plates and merchant with the database of stolen vehicles after getting complain of a stolen car, we can match the car plate number of our database and can search the car.

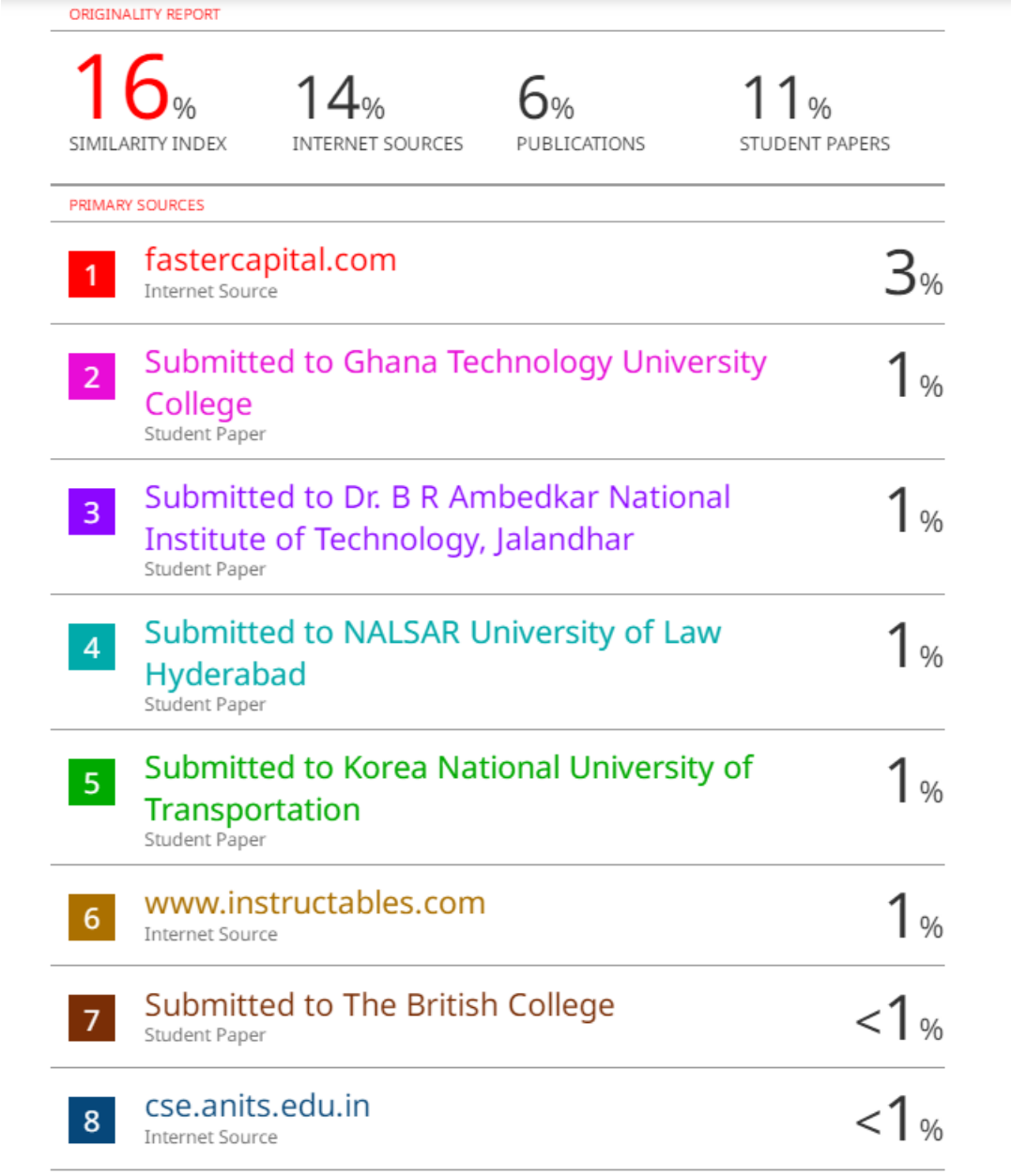
The Smart Traffic Management System utilizes image processing and machine learning technology to identify vehicle speed and detect congestion. With the widespread adoption of computing technology, the Smart Traffic System plays an increasingly crucial role in traffic management and vehicle safety.

Our system consists of five main modules

1. Automatic traffic light management using live traffic data.
2. Show traffic density of area in graph
3. Plate number recognition and matching the plate number with Database
4. Smart fine system for breaking traffic rules.
5. Car speed detection and congestion detection

PLAGIARISM REPORT

We have checked our Project Report for plagiarism using Turnitin. We are grateful to our mentor, Dr. Somesula Manoj Kumar, for guiding us through this process. Below is the digital receipt, indicating that the plagiarism level is approximately 16%.



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LIST OF ABBREVIATIONS

Vehicle License Plate Recognition (LPR)
Closed Circuit Television Camera (CCTv)
optical character recognition (OCR)
License plate recognition (LPR)
You Only Live Once (YOLO)

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