AUTOMATED VEHICLE ENTRY AND EXIT TRACKING SYSTEM

Submitted by

ATHULRAJ B C
Roll No: 223019

BABY SHERIN
Roll No: 223021

RAFEEK R
Roll No: 223041

In partial fulfilment of the requirements for the award of Master of Science in Computer Science with Specialization in Data Analytics of

Kerala University of Digital Sciences, Innovation and Technology (Digital University Kerala), Thiruvananthapuram 695317

January 2024

CERTIFICATE

This is intended to authenticate that the project report titled "AUTOMATED VEHICLE ENTRY AND EXIT TRACKING SYSTEM", submitted by Athulraj B C (Roll No.223019), Baby Sherin (Roll No. 223021), and Rafeek R (Roll No. 223041), in partial fulfilment of the requirements for the award of Master of Science in Computer Science with a Specialization in Data Analytics, is a true record of the work completed at Kerala University of Digital Sciences, Innovation and Technology under our supervision.

SUPERVISOR

Dr. Anoop V. S.
Professor
DUK

COURSE COORDINATOR

Dr. Anoop V. S.
Professor
DUK

DECLARATION

This report is largely the result of our own work, unless otherwise stated in the text, and was completed between September 2023 and January 2024 as per Rafeek R, Athulraj B. C and Baby Sherin students pursuing Master's Degree in Computer Science with Specialization in Data Analytics.

ATHULRAJ B C
Roll No: 223019

BABY SHERIN
Roll No: 223021

RAFEEK R
Roll No: 223041

Date: January 2024

Place: Thiruvananthapuram

ACKNOWLEDGEMENT

We want to sincerely thank all those who helped us complete the project on " AUTOMATED VEHICLE ENTRY AND EXIT TRACKING SYSTEM.” Your support has been incredibly important, and we truly appreciate everyone who contributed to the successful realization of this project.

We want to express our heartfelt gratitude to Dr. Anoop V.S. for offering valuable insights and guidance throughout the entire project. We extend our thanks to Digital University Kerala and the School of Digital Sciences for their support and assistance.

The help you provided was important for us to learn and gain experience from this project. Finally, we want to appreciate the effort and dedication of our team members and friends who made this project a reality.

ABSTRACT

This project presents an innovative smart system that uses computer vision and convolutional neural networks (CNN) to efficiently monitor vehicles in high-traffic areas like residential areas and schools. This system aims to monitor and regulate vehicle access by ensuring a secure and organized environment.

The proposed system infrastructure, which includes a network of security cameras that record complete footage of cars entering and leaving the area and it is installed in entrance and exit gates. The system verifies that the vehicle entered is authorized vehicle or not, after the identification by comparing licence plate data with the authorised database.

By continuously recording entry and exit times, the system enables the calculation of each vehicle's daily duration on campus. This function allows for the identification of any unfamiliar vehicles trying to enter the property and improving security measures in every direction. These advanced characteristics support additional safety and effective monitoring, completing the suggested system's set of features for maintaining safe environments in a wide range of situations.

TABLE OF CONTENT

	TITLE	PAGE NO.
I	**INTRODUCTION**	1
II	**LITERATURE REVIEW**	2
III	**PURPOSE OF PROJECT**	4
IV	**METHODOLOGY**	5
	i. System Architecture	5
	ii. Data Collection	6
	iii. Data Preprocessing	6
	iv. Model Architecture	7
	v. Easy OCR	8
	vi. Open CV	9
	vii. Working of the code	9
	viii. Model Summary	10
V	**RESULT AND DISCUSSION**	16
VI	**FUTURE SCOPE**	18
VII	**CONCLUSION**	19
VIII	**REFERENCES**	20