VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A PROJECT REPORT ON

"AUTO STEERING DETECTION USING HAND GESTURES"

Submitted in partial fulfillment for the award Degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

By

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CERTIFICATE

This is to certify that the project entitled **"AUTO STEERING DETECTION USING HAND GESTURES"** has been successfully completed by

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the bonafide students of the **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2023–2024. 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

This project explores the development of a small, self-driving car controlled by hand gestures. The car utilizes a Convolutional Neural Network (CNN) implemented on an Arduino board to interpret hand gestures and translate them into control signals for the car's movement. Motivated by the desire for a more intuitive and interactive way to control a car, the project leverages the power of CNNs for real-time image recognition. The Arduino board serves as the central processing unit, receiving camera input, running the CNN model to classify hand gestures, and translating the classification results into control commands for the car's motors. Through training the CNN model on a dataset of hand gestures representing forward, backward, left, right, and stop commands, the car will be able to respond to user input and navigate accordingly. The success of this project will demonstrate the feasibility of using hand gestures and CNNs for a simple, gesture-controlled car.