Self Driving Car using RaspberryPi

A PROJECT REPORT

Submitted by

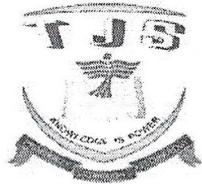**S.Y AHAMED ASIK**   **112818104901**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

T.J.S ENGINEERING COLLEGE, PERUVOYAL
PERUVOYAL (NEAR KAVARAIPETTAI)

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Approved by AICTE and Affiliated to Anna University, Chennai

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T.J.S. ENGINEERING COLLEGE
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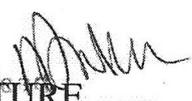**ANNA UNIVERSITY::CHENNAI 600 025**

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BONAFIDE CERTIFICATE

Certified that this project report **"SELF DRIVING CAR USING RaspberryPi"** is the bonafide work of **"S.Y AHAMED ASIK (112818104901)"** who carried out the project work under my supervision.

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SELF-DRIVING CAR

ABSTRACT:

Self driving cars are autonomous vehicles which are capable of sensing the environment and move safely with little or no human intervention. The objective of this project is to build a self driving miniature robot car capable of driving in any road conditions and to follow traffic rules. It involves the use of artificial Intelligence and computer vision to drive the car autonomously. The processing unit of the robot car is raspberry Pi which controls the vehicle with the help of other hardware components such as arduino and motor driver shield. Pi camera senses the environment. Python opencv library is used to process the image, frame by frame and detect traffic signs and lanes in the surface of the road. Many existing algorithms like lane detection, obstacle detection are combined together to provide the necessary control to the car.

Keywords: Autonomous vehicle, raspberry Pi, self-driving car

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