

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JNANA SANGAMA", BELGAUM-590014

KARNATAKA



Project Report On:

**"INTELLIGENT DATA ACQUISITION ROBOT FOR
INDUSTRIAL MONITORING "**

Submitted in partial fulfilment of the requirements of the award of degree

BACHELOR OF ENGINEERING

IN

ELECTRICAL & ELECTRONICS ENGINEERING

SUBMITTED BY:

MANU S N 1SV19EE007
NAGARAJ M 1SV19EE008
SHIVA KUMAR Y 1SV19EE016
YERRISWAMY M 1SV19EE020

UNDER THE GUIDENCE:

Mrs.TANUJA K S M.E (Ph.D), MISTE

Asst. Prof. Dept of EEE



Sri Shridevi Charitable Trust (R.)

SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY

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Sri A Road, Tumkur u- 572 106, Karnataka | Website: www.shrideviengineering.org



2022-2023

Nandha Lakshmi
**PRINCIPAL
SLET, TUMKUR.**

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING

CERTIFICATE

It is to certify that the project work entitled "INTELLIGENT DATA ACQUISITION ROBOT FOR INDUSTRIAL MONITORING" has been successfully carried out by MANU S N (ISV19EE007) DARAJ M (ISV19EE008) SHIVA KUMAR V (ISV19EE016) YERRISWAMY M (ISV19EE020) final year student of SHRI DEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY, MKUHE 572106, in partial fulfillment for the award of degree Bachelor of Engineering in ELECTRICAL ELECTRONICS ENGINEERING of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY ANA BANGALORE, BELAGAVI 560014 during the year 2022-2023. All the corrections suggestions invited for internal assessments have been incorporated in the report. The project work has been approved and satisfies the academic requirements in respect to the technical seminar prescribed for the said Degree.

Tanjaja K S 23/5/2023
Signature of the Guide

G. Srinivas
Signature of the HOD

Narendra Vishwanath
Signature of the Principal

Ms. TANUJA K S M.Tech (Ph.D) ASSIST. Prof., Dept of EEE, SIET, Tumkur	Mr. CHRAVIKUMAR M.Tech(Ph.D), HOD Dept of EEE, SIET, Tumkur	Dr. NARENDRA VISHWANATH (Ph.D) Principal SIET, Tumkur
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EXTERNAL VIVA

Name of the Examiners:

1. *Gayatri Arifanina*
2. *Chaitanya*

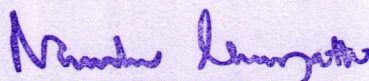
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Narendra Vishwanath
24/5/23

Narendra Vishwanath
PRINCIPAL
SIET, TUMKUR.

ABSTRACT

In the development of an intelligent wheel robot, which can recognize and follow a predefined forward sign while automatically bypassing any encountered obstacle. By distributing those forward signs, the path of the robot is determined. With this concept, an image based auto pilot system with immunity against electromagnetic interference is constructed. The rotation of the robot for automatic target detecting is achieved by using image processing. The experimental results showed that the robot could successfully detect forward sign and response properly. Simply redistributing the recognizable signs by the robot, a new path for robot is constructed. The robot will take different signs like left, right, forward, back ward & stop according to an image. Therefore, it has great flexibility for applications. The image process program compares with the webcam image inputs with the forward signs features from training program to detect the forward sign. Once a forward sign is detected by image processing program image motion control program will rotate the robot to aim the forward sign and then move toward it. Similarly for remaining signs also the image process program compares with the webcam inputs and the controller will move the robot in different directions (like left, right, backward, stop) based on image. When an obstacle is detected by the ultrasonic sensors, image motion control program will launch a bypass process that means automatically the robot will take either left or right. Wireless camera will send real time video and audio signals which could be seen on a remote monitor and action can be taken accordingly. If any gas/smoke and high temperature detected by using sensors, then robot will give buzzer to indicate, otherwise the buzzer will be calm. Data Acquisition is the basic property of the Weather monitoring /Logging systems, as the name implies, are used to collect information from some sensors to document or analyze the phenomenon of our climate.


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