

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590018



Mini Project Report on

“SMART PHONE CONTROLLED ROBOTIC ARM ”

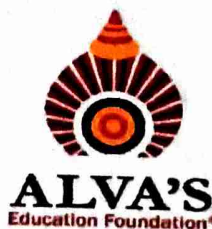
Submitted in partial fulfillment of the requirements for the award of degree

**BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING**

Submitted By

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**Under the Guidance of
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

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MOODBIDRI – 574 225.

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ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

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"Shobhavana", Mijar, Moodbidri - 574 225, D.K.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the following students,

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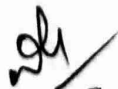
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has submitted Project synopsis on "SMART PHONE CONTROLLED ROBOTIC ARM" for VI Semester B.E. in Electronics & Communication Engineering during the academic year 2023-24. The mini project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.



Mini Project Guide

Dr. Dattathreya



Mini Project Coordinator

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ABSTRACT

In the contemporary landscape of automation and robotics, the integration of smartphone technology with control systems has become increasingly prevalent. This project explores the development of a Smartphone Controlled Arm utilizing the Node MCU microcontroller, designed to enhance the accessibility and versatility of robotic manipulation tasks. The core objective is to create an intuitive and user-friendly interface for controlling a robotic arm through a smartphone application, thereby demonstrating the potential of Internet of Things (IoT) technologies in everyday applications.

The system is built around the Node MCU, an open-source IOT platform based on the ESP8266 Wi-Fi module, which provides seamless connectivity and control capabilities. The robotic arm, equipped with servo motors, is interfaced with the Node MCU to facilitate precise and responsive movements. A custom smartphone application, developed for both Android and iOS platforms, serves as the control interface. This application communicates with the Node MCU via Wi-Fi, sending control signals to manoeuvre the arm in various directions and perform specific tasks.

The implementation of this project involves the design and programming of both the hardware and software components. Key aspects include the development of the Node MCU firmware to interpret commands from the smartphone and translate them into motor movements, as well as the creation of a user-friendly mobile application with real-time feedback and control features.

This project demonstrates the practical application of IOT in robotic control and aims to showcase the potential for further advancements in remote automation. By enabling control of the robotic arm through a smartphone, it provides.