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**PREFACE**

Every student of bachelor of technology in mechanical engineering has an essential requirement to do miniproject in any of useful matter. The purpose of this project is to acquaint the student with practical applications of practical concepts taught to them during conduct of their course.

Really it was a nice opportunity to have a close comparison of theoretical concept in practical field. This report may depict deficiencies on my part but still it is an output of a student's effort for which I beg pardon.

The output of my analysis is summarized in a shape of miniproject.

**DECLARATION**

I, **Ashish Bastola**, the student of 7th Semester studying Mechanical Engineering in Nitte Meenakshi Institute of Technology, Bengaluru, hereby declare that this miniproject report was done on topic **“ROBOTIC ARM CONTROL USING HAND GESTURES”**under the guidance of **Mr.Vikram Kedambadi Vasu**, Assistant Professor, Dept. of Mechanical Engineering, Nitte Meenakshi Institute of Technology, Production Engineer at Rishi Consfab Pvt Ltd. No part of this report is previously submitted to any other University/ College/ Institution for any academic Certificate/ degree/ qualification.

We also conform that the report is only being prepared to meet our academic requirement and not for any purpose.

----------------------------- Date:

(Ashish Bastola) Place: Bangalore

USN: 1NT15ME017

# ABSTRACT

In today’s world there is an increasing need to create artificial arms for different inhuman situations where human interaction is difficult or impossible. They may involve taking readings from an active volcano to diffusing a bomb. Here we propose to build a robotic arm controlled by natural human arm movements whose data is acquired through the use of accelerometers. For proper control mechanism and to reduce the amount of noise coming in from the sensors, proper averaging algorithm is used for smoothening the output of the accelerometer. The development of this arm is based on ATmega32 and ATmega640 platform along with a personal computer for signal processing, which will all be interfaced with each other using serial communication. Finally, this prototype of the arm may be expected to overcome the problem such as placing or picking hazardous objects or non-hazardous objects that are far away from the user.