

# Robotic arm movement overview

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## Abstract

The subject of this thesis focuses on the ability to move robotic arms by voice commands. For better understanding of the subject, research and development was done for the theory about robots and robotic arms, programming and control systems, motors used for the movement and voice recording electronic circuits. Also, a presentation of integrated systems that can be used for the implementation of this robotic arm is included.

## 1. Introduction

The rapid advance of technology increases the need of new products, like automation systems. Some of them include robotic systems and the ability to be controlled via voice commands.

## 2. Overview

### 2.1. *Robots*

Robot theory is the key to understand how many systems nowadays work, what is their structure and their characteristics. They can be programmed, and we can also control the force that a robot exerts.

### 2.2. *Controllers*

Controllers are the electronic circuits that, when programmed properly, help as control the systems they are connected in as we wish.

### 2.3. *Microphones*

A microphone is of course needed in the examined systems, because it is the receiver of human's voice commands.

### 2.4. *Robotic arm*

In this thesis we do not examine a robot generally, but a robotic arm. It is a helpful system because of its ability to move in many directions and, also, to catch things with its edge.

### 2.5. *Motors*

Motors are the main systems that make a robotic arm able to move, and that is why it is important for us in this thesis to know how they work.

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### 3. Conclusions

The present thesis was an effort to understand robotic systems and especially robotic arms that can move via voice commands given by a human. To support this effort, the relevant field's theory was presented. The objectives of the thesis are fully performed. However, there were some restrictions for the practical presentation of this thesis. A practical application of the robotic arm that can be moved via voice commands is the most possible extension of this thesis.

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