



*University of Al Mosul
College of Engineering
Mechatronics Department*



Bachelor Final Project

A Study of Problems Diagnosis in Air-Conditioning System

A graduation project is submitted to the Mechatronics Engineering Department in partial fulfillment of the requirement for the degree of Bachelor of science in Mechatronics Engineering

Submitted By:

Muhammad Bashar Aldulstar

Aya Faris Ghanim

Muhammad Manaf saadi

Haneen Essam Thanoon

Supervised By:

Dr. Muhamad Azhar Abdilatif Al-Obaidy

2023-2024



**University of Mosul
College of Engineering
Mechatronics Engineering Department**



**Under Graduate Research Project (I)
Design of an Air heater for heating a room**

**A graduation project is submitted to the Mechatronics
Engineering Department in partial fulfillment of the
requirements for the degree of Bachelor of Science in
Mechatronics Engineering**

4th Stage

Supervised by:

Dr. Loay Bashir Younis

Prepared by:

Omar Raed Mahdi

Yassin Mohammed Hussein

Mohammed Bashir Ahmed

(2023-2024)

Republic of Iraq

Ministry of education and scientific research

University of Mosul

Mechatronics Engineering Department



**Design A Prototype Device For
Metal Formation**

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Engineering Department in partial fulfillment of the
requirements for the degree of Bachelor of Science in
Mechatronics Engineering**

By Students:

OSAMA RABEE

OSAMA MAJID

HUSSEIN ANSAR

Supervised By:

Dr. Myasar Salim

2023



University of Mosul
College of Engineering
Mechatronics Engineering Department



Bachelor's Final Project
PART (1)

DESIGN AND IMPLEMENTATION OF A SELF-BALANCING ROBOT

A GRADUATION PROJECT IS SUBMITTED TO THE MECHATRONICS
ENGINEERING DEPARTMENT IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN
MECHATRONICS ENGINEERING

Team Members:

Adnan Kanaan Faidhalla
Syfe Alden Mohammed
Nafisa Nassar

Project supervisor:

Dr. Firas Ahmed Aldurze

2024 - 2023



**University of Mosul
College of Engineering
Mechatronics Engineering Department**

Bachelor's Final Project
Design of
Rotary Conveyor for lap volt Robot arm

**A graduation Project Submitted to The Mechatronics
Engineering Department in Partial Fulfillment of the
requirements for The degree of Bachelor of science in
Mechatronics Engineering**

Students:

Amany Khaled

Abdullah Samir

Omar Abdulrahman

Supervisor by:

Dr. Saad Zaghloul



Ministry of Higher Education and Scientific
Research
University of Mosul
College of Engineering



Department of Mechatronics
Engineering

Methodologies for Real-time AI Object Detection and Distance Estimation System for mobile robot applications

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Department in partial fulfillment of the requirements for the degree
of Bachelor of Science in Mechatronics Engineering

Supervised by:

Dr. Mohammed Yaseen Hazim

By:

Maysara Abdulrahman Salih
Ahmed Marei Ahmed
Aya Mahmoud Shaker

2023-2024



**University of mosul
College of Engineering
Mechatronics Department**



**A practical study to verify the feasibility of using road wind turbines to
generate clean energy sufficient to operate road services in Mosul.
2023/2024**

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Engineering Department in partial fulfillment of the
requirements for the degree of Bachelor of Science in
Mechatronics Engineering**

Supervised by:

Dr. Laith Mohammed Jassim

Dr. Ali A. Abdallah Alkurkchi

By

Nadine Ahmed

Ahmed bassam



University of mosul
College of Engineering
Mechatronics Department



Design and manufacture of a vertical wind turbine
2023/2024

**A graduation project is submitted to the Mechatronics
Engineering Department in partial fulfillment of the
requirements for the degree of Bachelor of Science in
Mechatronics Engineering**

Supervised by:

Dr. Laith Mohammed Jassim

Dr. Ali A. Abdallah Alkurkchi

By

Nadine Ahmed

Srour Saad

Ahmed bassam



Bachelor's Final Project

(implementing a wireless communication and control system for multiple robot's using sound command)

A graduation project is submitted to the Mechatronics Engineering Department in partial fulfillment of the requirements for the degree of Bachelor of Science in Mechatronics Engineering.

Under the supervision of:

Dr. Zahraa Tarik Mohammad

Student preparation:

1. Yousef Khaled Hardan
2. Mohammad Basil
3. Madian salal

2024-2023

Ministry of Higher Education
and Scientific Research
University of Mosul
Mechatronics Engineering Department



DESIGN OF AN AUTOMATIC EGGS INCUBATOR

A graduation project is submitted to the Mechatronics Engineering
Department in partial fulfillment of the requirements for the degree of
bachelor of science in Mechatronics Engineering

Prepared by:

Zubaida Tariq Qasim

Mariam Mohammed

Sally Aziz

Supervisor By

Dr. SAYF A. MAJEED

Mosul, Iraq

Fall 2024



University of Mosul
College of Engineering
Mechatronics Engineering Department



Bachelor's Final Project

Design of Balancing Device

Submitted By:

Rayan Nawfal

Abdulah Mohamed

Supervised by:

Dr. Ahmed Wadallah

Dr. Ali Abdel Jalil

2023-2024



University of Mosul
College of Engineering
Mechatronics Engineering Department



Bachelor's Project

Implementation of a robotic arm for an automated sorting system

A graduation project is submitted to the Mechatronics
Engineering Department in partial fulfillment of the
requirements for the degree of Bachelor of Science in
Mechatronics Engineering

Students:

Adam Saleem
Abbas Amer
Dalya Zaki

Supervised by:

Dr. Marwah Ezzulddin



University of Mosul

College of Engineering

Mechatronics Engineering Department

Design of Farming Robots for Sustainable Agriculture Applications

**A graduation project is submitted to the Mechatronics
Engineering Department in partial fulfillment of the requirements for
the degree of Bachelor of Science in Mechatronics Engineering**

Prepared by:

Toqa Jamall

Jannat yasiir

Athbaa walid

Supervised by:

Dr.Omar saadallah

January 11, 2024



UNIVERSITY OF MOSUL
COLLEGE OF ENGINEERING
MECHATRONICS ENGINEERING DEPARTMENT



UNDERGRADUATE RESEARCH PROJECT

PART(I)

DESIGN OF DELIVERY ROBOT

تصميم روبوت ذاتي الحركة له القدرة على توصيل الطلبات الى الهدف المحدد له

4th STAGE

A GRADUATION PROJECT IS SUBMITTED TO THE MECHATRONICS
ENGINEERING DEPARTMENT IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN
MECHATRONICS ENGINEERING

SUPERVISED BY:

DR: ZIAD MOHAMMED

PREPARED BY:

DEEMA AHMED

ETHAR HAMEED

DUAA MOHAMMED

(2023-2024)



University Of Mosul
College Of Engineering
Mechatronics Engineering
Department



Bachelor's Final Project

Sorting Product System
Design in an Industrial Line Application

**A Graduation Project is Submitted to the Mechatronics Engineering
Department in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Science in Mechatronics Engineering**

Subjected by:

Yacob Khaled

Moath Abd-Alwahab

Othman Muhamad

Supervised by:

Dr. Muhamad Azhar Abdillatef AlObaidy

2023 - 2024



Ministry of Higher Education and Scientific Research

University of Mosul

College of Engineering

Mechatronics Engineering Department

**Design and Feasibility Study of a Smart Solar Based Irrigation
System with Sun Tracking and Environmental Sensing for
Enhanced Agricultural Sustainability**

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Department in partial fulfillment of the requirements for the degree of
Bachelor of Science in Mechatronics Engineering**

BY

Mortada Hilal Khayoun

Mustafa Saad Abd

Mead Ramadan Suleiman

SUPERVISOR

Dr. Muhammad Falah

2023-2024



The Republic of Iraq
Ministry of Higher Education and
Scientific Research
University of Al Mosul
College of Engineering
Mechatronics Engineering
Department



Design of educational two DOF (degree of freedom) haptic device

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Prepared by

Samy Jassem Mohammed

Osama Rashid Suleiman

Morooj Qusai Ganim

Supervised by Dr. Omar Maarroof



**University of Mosul
College of Engineering
Mechatronics Engineering Department**



Rehabilitation of mechatronics training system- Module 2 (Testing Station)

Final year project report

Fall, 2023 - 2024

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partial fulfillment of the requirements for the degree of Bachelor of Science in
Mechatronics Engineering**

By

Mohammed Ammar Mal Allah

Fatema Alzahraa Adel Badan

Supervisor

Dr. Hassan M. Saeed