Mostafa Ahmed Mahmoud Mohamed Qusit

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Education

Faculty of Engineering - Ain Shams University — Abdo Pasha, Cairo
Bachelor of Science (BSc) in Mechanical Engineering – Mechatronics Engineering Program — *Sep. 2018 – July 2023*

- GPA: 3.43 (9th on my class)
- Graduation Project GPA: 4.0 (A+)

Experience

B1 Aircraft Maintenance Scheduling Engineer — May 2024 – Present
EGYPTAIR MAINTENANCE AND ENGINEERING - CAMO - Scheduling Dep. — *Cairo International Airport, Cairo*

- Scheduled MP tasks in alignment with compliance deadlines, flight hours (FH), and flight cycles (FC).
- Received, evaluated, and scheduled EOs based on compliance deadlines, FH, and FC.
- Reviewed TCI lists to identify compliance due dates and scheduled tasks accordingly.
- Reviewed, prioritized, and scheduled deferred defects for resolution based on resources and compliance deadlines.
- Scheduled and tracked tasks from Open Items Lists to meet compliance requirements.

IT Programming Instructor — Sep. 2023 – May 2024
NASS Academy - WE School of Applied Technology - 1st Secondary Grade — *Nasr City, Cairo*

- Delivered engaging and interactive 4 main topics in **IT-related subjects:** *(Computer Architecture , Computer Networks , Intro. to computer programming and Python , IT Systems in Organization)*
- Integrated technology tools into teaching, including smart boards and Google Classroom.
- Assessed student performance using diverse evaluation methods, including quizzes, exams, and reports for international accreditation.
- Contributed to curriculum development by creating quizzes, question banks, and participating in grading process.

Embedded Software Engineer — Aug. 2022 – Sep. 2022
MASAR ELECTRIC - Embedded Systems Department — *Abdeen, Cairo*

- Developed and contributed to multiple embedded and automation projects like Concrete Project.
- Implemented and integrated Human-Machine Interface (HMI) systems using DWIN DGUS II Touch Screen.
- Engineered approximately 15 AVR embedded drivers across various layers: MCAL Layer and HCL Layer.

Projects

Simple Online Store | *GitHub, VS Code, HTML, CSS, JavaScript, React* — Sep 2023 – Oct 2023

- Designed and developed a simple online store using Front-End Framework called **React** (JavaScript-based).

M.A.H.R | *PlatfromIO IDE, ESP, ESP-NOW, IOT, Wi-Fi, Arduino, Python* — Oct 2022 – July 2023

- A **M**ulti-function **A**utonomous **H**ousehold **R**obot, capable of navigating through the house on its own.
- The robot is designed to navigate autonomously through the house, ensuring efficient movement and obstacle avoidance, equipped with a 5 Degrees of Freedom (DOF) manipulator arm
- Integrated 4 communication methods, including: (USART, Wi-Fi, Bluetooth, ESP-NOW (for ESP boards only))
- Allows the robot to make calls and send messages by SIM800L, Provides voice comments by MP3 Module.
- Control via a custom app and PS4 controller for manual or autonomous operation.
- **Software Architecture:**
  - Low-Level Control: Handled by ESP32 boards using PlatfromIO IDE (Application layer). *My Contribution*
  - High-Level Control: Managed by Raspberry Pi 4B using the Robot Operating System (ROS).

Service Towers Distribution - Optimization Problem | *Jupyter, Python* — Feb 2023 – Jun 2023

- aimed to distribute service towers over a defined map, using Python programming using 5 optimization techniques.

Machine Learning Model | *Jupyter, Python, OpenCV, TensorFlow* — Oct 2022 – Feb 2023

- developed a ML classifier the **CIFAR100** dataset using the OpenCV library and Python programming using 3 different Feature Extractions & Classifiers.

Mathematical Optimization Problem | *Jupyter, Python, NumPy, SymPy, SciPy* Oct 2022 – Feb 2023

- aimed to optimized a complex mathematical equation using Python programming using 3 optimizations methods.

Furuta Pendulum - Hybrid Control Problem | *Matlab, Simulink , Arduino* Oct 2022 – Feb 2023

- Aimed to reach stability of the inverted pendlum through the rotation of the system's driven base.

3-Axis Parallel CNC Plotting Machine | *Arduino* Mar 2022 – Jun 2022

- A CNC M/C capable of drawing 2D pictures and writing using a pen, implemented using 2 control algorithms.

RRR Serial Robotic Arm | *Arduino* April 2022 – Jun 2022

- An RRR (3 Revolute joint) serial robot capable of drawing numbers using 3 servo motors.

Production Line and Storage Control | *Factory I/O, TIA Portal* Nov. 2021–Dec. 2021

- Designed and Implemented the Ladder Control Diagram of the Automation of the Production Line.

Courses & Trainings

Basic complementary Course for A&C Engineers | *EGYPTAIR TRAINING ACADEMY* Feb 2025
Aviation Regulation Course for Engineers | *EGYPTAIR TRAINING ACADEMY* Jan 2025
AMOS Software training for Scheduling/Planning Engineers | *EGYPTAIR M&E* Dec 2024 - Present
Basic Indoctrination for Aero./Mech. Engineers | *EGYPTAIR TRAINING ACADEMY* Aug 2024 – Nov 2024
Pre Basic for Mechanical Engineers | *EGYPTAIR TRAINING ACADEMY* July 2024 – Aug 2024
Aircraft Maintenance Planning & Scheduling For Engineers | *AACO Training Center-RTC* June 2024
Embedded Systems | *Eng. Ahmed Abd El-Ghafar* July 2024 – Present
E-Waste Refurbishment Curriculum Train-OF-Trainers | *Electronics Research Institute* Feb 2024
Competency-based learning Training | *Ministry of Education and Technical Education* Dec 2023
Full-Stack for beginners | *NASS Academy - WE School* Sep 2023
Create a Financial Statement using Microsoft Excel | *Coursera* Sep 2023
MATLAB Onramp | *MathWorks* Oct 2022
Simulink Onramp | *MathWorks* Oct 2022
Basic programming and operating CNC Milling centers using Fanuc Oi | *AOI Academy* Oct 2021
Fundamental Embedded Systems | *Eng. Hussien Hossam* Feb 2021 – Sep 2021
Building Arduino robots and devices | *Coursera* Sep 2020
Introduction to Programming with MATLAB (level 1/3) | *Coursera* Sep 2020
Getting Started with Python (Level 1/5) | *Coursera* Sep 2020
Supply Chain | *IDT Student Activity* April 2020

Skills

- **Computer Applications:**
  - MS Office (Excel, PowerPoint, Word)
  - Aviation Maintenance & Operational Systems (AMOS)
- **Mechanical Design:** SOLIDWORKS, Inventor, AutoCAD
- **Languages:** Arabic (Native), English (Professional)
- **Programming:**
  - Languages: Python, C/C++, SQL (MySQL), JavaScript, HTML/CSS, MATLAB/Simulink, G-Code
  - Frameworks: Arduino, Bootstrap, React, Node.js, Express
  - Tools: Git, GitHub, VS Code, PyCharm, IAR, Microchip/Atmel, PlatfromIO IDE, Jupyter, Arduino IDE
  - Boards: AVR, ESP32, STM32, ARM Cortex M4
  - Libraries: Python(NumPy, SymPy, SciPy, Pandas, Matplotlib, OpenCV, TensorFlow)
- **Soft Skills:** Teamwork, Communication, Problem Solving, Time Management, Adaptability, Public Speaking.