ISRAA ABDELGHANY

AI & ML ENGINEER

CONTACT INFORMATION

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PROFILE

I am a highly motivated AI and Machine Learning engineer, graduated from the Mechatronics Department at MUST University with a GPA of 3.84, and ranked 1st in my department. I am passionate about learning and continuously improving my skills. I have strong expertise in Python, TensorFlow, and Keras for deep learning. I have experience developing AI and machine learning models, working with cloud platforms, and handling data pipelines. Additionally, I have worked with SQL databases like MySQL and NoSQL databases such as MongoDB. My background also includes robotics, NLP, and software engineering, with solid knowledge in MATLAB, SolidWorks, and embedded systems (C, C++). I am eager to contribute to innovative AI solutions and grow in a collaborative environment.

EDUCATION

Information Technology Institue (ITI)   **Oct 2024 – Present**
9-months Track AI&ML scholarship
- Deep Understanding of AI, ML, DeepLearning and Nueral Networks

Bachelor of Science in Mechatronics Engineering   **Sep 2019 - Sep 2024**
Misr University for Science and Technology
- GPA: 3.84

INTERNSHIPS & TRAININGS

AOI Training Academy, Basics of Programming & Operating CNC   **Feb 2023**
Turning & Milling Machines
- Programming with G-code and M-code for turning and milling. with hands-on experience in producing parts using CNC machines.

AOI Training Academy, SIMATIC PLC Programming   **Sep 2022**
- Programming and hardware setup in TIA Portal for S7-1200/1500. Data management using blocks (OB, FC, FB) and handling binary/digital operations.

Engovation, Fundamentals of Automotive Engineering   **Feb 2022 – Apr 2022**
- Overview of automotive systems including engine, transmission, vehicle dynamics, electrical/electronic components, chassis, suspension, brakes, and basic maintenance.

AOI Training Academy, Helicopter Maintenance   **Sep 2021**

Digital marketing level 1, Udacity - Egypt FWD   **May 2021 – Sep 2021**

PROJECTS

Object-Oriented Programming using C++   link

 Developed a collection of C++ programs applying object-oriented programming concepts. Projects include real-world applications like a bank system, student records, and library management. Focused on using classes, inheritance, polymorphism, file handling, and constructors to build structured, reusable code.

Text Clustering and Analysis Project   link

 A project that preprocesses text, extracts features (TF-IDF), clusters them using K-Means and hierarchical algorithms, evaluates the clusters (Silhouette & Purity scores), and visualizes results (t-SNE, dendrogram, etc.). It includes a FastAPI-based REST API for predictions and is deployable using Docker

Prediction of Obesity Risk   link

 Developed a predictive model using LightGBM to assess obesity risk based on demographic, dietary, and activity data. Applied data preprocessing, feature engineering, and model evaluation (accuracy, precision, recall, F1-score) using Python, scikit-learn, and Jupyter Notebook.

Credit Card Dataset with SVM Variants   link

This project classifies credit card transactions using various SVM models (linear, RBF, polynomial). It includes data preprocessing, feature scaling, and evaluation based on accuracy and classification reports. Advanced data handling or feature engineering is not included.

MNIST LSTM   link

This project classifies MNIST digits using LSTM networks by treating images as sequences. It reshapes the data to capture temporal dependencies, using TensorFlow/Keras to build the model. The focus is on sequence modeling for vision tasks, going beyond typical CNNs.

DL Models on CIFAR-10 & MNIST: link

This project implements convolutional neural networks (CNNs) on CIFAR-10 and MNIST datasets for image classification. It covers designing CNN architectures with convolution, pooling, dropout, and fully connected layers, training models, and evaluating their performance.

link

Autonomous navigation robot for unknown environment

Developed a small car robot for 2D mapping of unknown areas using LiDAR, ROS, and C++. Implemented advanced mapping and localization with A* path planning, Gmapping, and Cartographer for accurate navigation and real-time mapping.

Bicycle design using ADAMS

Designed the mechanical structure with ADAMS, focusing on dynamic simulation and optimization to reduce manual effort and improve power transmission efficiency. The system enhances driving comfort and is user-friendly for all ages, allowing comfortable practice without fatigue.

Autonomous Obstacle-Avoiding Robot Using Arduino and MATLAB

Built an autonomous obstacle-avoiding robot using Arduino and MATLAB with FSM (Finite State Machine) for navigation. Sensors feed data to MATLAB, which directs the robot's movements.

SmartWatering system

A smart plant watering system using fuzzy logic with MATLAB Simulink and Arduino, controlling water based on sensor data to reduce waste and improve plant health.

LANGUAGES

Arabic : Native   English : B2   Korean : A2   German : A1

PROFESSIONAL EXPERIENCE

Teaching Assistant in Mechatronics Department   **Sep 2024 - Oct 2024**
MUST University

TECHNICAL SKILLS

- C++ , C and Python
- Machine Learning, Deep Learning, NLP
- TensorFlow, Keras, Scikit-learn, PyTorch
- Pandas, NumPy, Matplotlib, Seaborn
- OpenCV (computer vision)
- Git & GitHub
- Linux
- Robot Operating System (ROS)
- AWS (Amazon Web Services)
- MySQL and MongoDB
- Autonomous Navigation Algorithms
- MATLAB , Simulink and Simscape
- Arduino microcontroller programming
- AVR microcontroller programming
- Engineering control systems
- SolidWorks
- LabView
- CNC
- PLC
- Digital Markiting

PERSONAL SKILLS

- Teamwork & Communication
- Problem Solving
- Systematic and organized
- Leadership (AI Track Leader – Mansoura Branch, 9 months)
- Fast learner and self-motivated
- Adaptability and curiosity

COURSES

Getting Started with Git and GitHub, Coursera – IBM   Oct 2023 – Nov2023

Algorithmic Toolbox, Coursera – University of California San Diego   July 2024 – August 2024

Intermediate Python, Data camp   December 2024

AWS Concepts, Data camp   January 2025

Understanding Cloud Computing, Data camp   January 2025

Introduction to Object–Oriented Programming in C++, Coursera, University of London   October 2024

C++ Programming: Classes and Data, Coursera, University of London   Novamber 2024

Object–Oriented Programming in C++: Functions, Coursera, University of London   December 2024

Python for Data Science, AI & Development, Coursera – IBM   Novamber 2023