FATHY HESHAM FATHY | Machine Learning Engineer

+20 1159335151 | Egypt - Giza - Al Haram | Email : fathyhesham2001@gmail.com
LinkedIn : https://www.linkedin.com/in/fathy-hesham-fathy
GitHub : https://github.com/FathyHesham
Military Service : Final Exemption

Skills

➢ **Technical Skills :** Python | Object-Oriented Programming (OOP) | Data Cleaning | Data Visualization | Data Analysis | Machine Learning (ML) Algorithms | Supervised Learning | Unsupervised Learning | Deep Learning (DL) | Natural Language Processing (NLP) | MLOps | Transformer | Image Processing | Computer Vision | Database | SQL | Flask | LLMs | LangChain | Fine Tuning

➢ **Soft Skills :** Communication | Problem-solving | Teamwork | Learning | Time management | Leadership | English | Research | Creativity | Hugging Face | Clean Code

Work Experience

➢ **Machine Learning Engineer – CodSoft – Internship** **1 Dec. 2024 – 31 Dec. 2024**

- During my **CodSoft internship**, I worked on machine learning projects solving real-world issues like customer retention and fraud detection, focusing on handling imbalanced datasets. This experience honed my skills in data preprocessing and practical problem-solving with advanced techniques.

➢ **Machine Learning Engineer – Digital Egypt Pioneers Initiative – Training** **Apr. 2024 – Nov. 2024**

- Training affiliated with the Ministry of Communications focuses on artificial intelligence, specifically machine learning. **The goal of this training** is to advance the field of machine learning and promote the use of Microsoft tools.

Education

➢ **Ahram Canadian University – ACU | Cairo, 6th October** **Oct. 2019 - June 2023**

- Bachelor of Computer Science & Information Technology
- **Major:** Artificial Intelligence.
- **Grade (GPA):** 3.76 (Ranked **5th** in the class)
- **Degree Graduation Project:** Excellent (**A**)

Projects

➢ **Graduation Project In University : Nail Diseases Detection Using Image Processing & Deep Learning**

- Developing a model that can detect nail diseases, identify any defect in body parts, suggest a specialist doctor for a specific disease and identify some possible diseases for the patient, and add to the doctor some information about the patient to help him make a good diagnosis and this project was linked to a website (website). Using 12700 image | Using CNN (Acc = 74%) | Using VGG-19 (Acc = 82%) | Using ResNet-50 (Acc = 89%)

➢ **Graduation Project In DEPI : RAG System – DEPI Chatbot**

- The project aims to build a **Retrieval-Augmented Generation (RAG)** system to answer questions related to the **"Digital Egypt Pioneers Initiative"** using Natural Language Processing techniques. Data is collected from the initiative's website and transformed into digital representations stored in a database. When a user asks a question, the system searches for the most relevant information and uses a model to generate an appropriate response based on context. The project is deployed on Azure to ensure high performance and provide an excellent user experience.

➢ **Virtual Question Answering - Generate Caption of Image**

- The Generate Caption of Image project leverages cutting-edge Computer Vision and Natural Language Processing techniques to automatically generate descriptive captions for images. By utilizing a pre-trained

transformer model (**`nlpconnect/vit-gpt2-image-captioning`**), the project provides an efficient solution for image understanding and annotation. The modular design, streamlined GUI, and deployment-ready architecture make it suitable for diverse use cases, from accessibility applications to content generation.

➢ **Text Summarization Using NLP (Natural Language Processing)**
- Developed a text summarization application using NLP techniques and the **BART-SAMSum** model to create accurate, human-like summaries of dialogues. Built with Python and OOP principles, the project utilizes Transformers, PyTorch for GPU acceleration, and Streamlit for a user-friendly interface. Designed for cross-platform compatibility with Docker, it emphasizes code maintainability and comprehensive logging. Future enhancements will focus on model fine-tuning and multi-lingual support.

➢ **Twitter Sentiment Analysis Using NLP (Natural Language Processing)**
- The project applies sentiment analysis to tweets from companies like FIFA, Facebook, and Google to determine whether the sentiments expressed are positive or negative, using Natural Language Processing (NLP).

➢ **Superstore Exploratory Data Analysis (EDA)**
- The "Superstore Exploratory Data Analysis (EDA)" project analyzes retail sales data to address challenges in preprocessing and feature integration. It aims to answer 26 analytical questions using visualizations to provide insights and enhance business performance.

➢ **Bitcoin Historical Data Bitcoin Historical Data**
- The project analyzes Bitcoin data, including the opening price, highest and lowest prices, trading volume, and other factors, to predict whether an investor should buy shares. The dataset contains 1,048,574 rows and 16 columns.

➢ **Clock Using Computer Vision**
- The project creates a "Hand Clock" function using OpenCV, NumPy, and other libraries to display a clock on a 1000x1000 image, with points for hours and minutes, and the current date and time in the top-left corner.

Courses

- Introduction To LLMs | 365 DataScience | Link Certificate
- Introduction To NLP For AI | 365 DataScience | Link Certificate
- ALX AiCE - AI Career Essentials | alx_africa | Link Certificate
- Supervised Machine Learning (Regression and Classification) | Stanford University ONLINE | Link Certificate
- Database Fundamentals | Mahara Tech | Link Certificate
- Python for Data Science and Machine Learning | Udemy | Link Certificate
- The Python and Django Learning Guide | Udemy | Link Certificate
- Introduction To Computer Vision | Information Technology Institute (ITI) | Link Certificate

Leadership / Extracurricular

Graduation Team Leader **Oct 2022 – June 2023**
- Led a 6-member team at Ahram Canadian University, coordinating knowledge distribution, engaging with teaching staff and advisors, facilitating project decisions, and ensuring the project was complete and delivered on time.
- **Skills:** coordinating, Focused, Strategic Planner, Adaptable, Communicative, Problem Solver, Time Management

Language

- Arabic
- English