

Yousef Tarek Elbaroudy

Cairo, Egypt • yousef.elbaroudy02@gmail.com • (+20) 11 1816 6039 • **Military Status: Exempted**

[Yousef Elbaroudy | LinkedIn](#) • [YousefTB | Github](#) • [yousefelbaroudy | Kaggle](#)

AI Engineer

As a fresh graduate AI Engineer, I am dedicated to applying and advancing my skills through real-world industrial projects, aiming to contribute to innovative and impactful solutions using new technologies

EDUCATION

10/2020 – 07/2024

Bachelor of Computer Science and Artificial Intelligence – Benha University

- **Major:** Artificial Intelligence
- **Coursework:** Machine Learning, Deep Learning, Data Analytics, NLP, Information Retrieval, Computer Vision, Speech Recognition, Neural Network, Robotics
- **Achievements:** Graduated with **Excellent grade and Honors**, Cumulative GPA: 3.94/4.00 – 94.78%
Took the **2nd Place** in the 2023/2024 Graduation Class

PROFESSIONAL EXPERIENCE

10/2024 – Present

Benha, Egypt

Teaching Assistant

Faculty of Computers and Artificial Intelligence, Benha University

- Engaged with colleagues to prepare academic materials for courses: Artificial Intelligence, Machine Learning, Data Science, Knowledge Representation, Deep Learning.
- Supervised 2 undergraduate capstone projects through workflow management, data preparation, models building and deployment.
- Engaged with undergraduate students in 4th level in multiple courses, empowering their skills applying practical real-world projects to demonstrate different aspects.

07/2023 – 09/2023

Benha, Egypt

Machine Learning Instructor

Information Technology Consultation and Research Center (ITCRC)

- Mentored two groups of 60 trainees on various Machine Learning topics, including Supervised and Unsupervised Learning.
- Provided instruction and guidance in Python programming, NumPy, Linear Algebra, Statistics, Data Analysis, and Data Preprocessing

07/2023 – 08/2023

Menoufia, Egypt

Machine Learning/AI Intern

Information Technology Institute (ITI)

- Completed a 2-month internship focusing on Python programming, NumPy, Linear Algebra, Statistics, Data Analysis and Preprocessing, Machine Learning, and Deep Learning

PROJECTS

Horus Eye – Graduation Project (A+ Grade) | [Link for project](#)

- Developed an AI-powered tour guiding mobile application offering touring services in all museums featuring the ancient Egypt civilization for visitors leading to a plan for increasing profits 60% in tourism section
- Fine-tuned GPT-4 Turbo on historical data to create a question-answering chatbot for interactive experience to users

Field and Tools: Tourism – Data | Transformers – SQL – Fine tuning

AWS Smart Agriculture System | [Link for project](#)

- Created a Smart Agriculture system leveraging AWS IoT Core and integrating machine learning technologies to optimize farming operations
- Designed a complete architecture on AWS, utilizing SageMaker and AWS Lambda for routing payloads for storing purposes in FireStore

Field and Tools: Agriculture – Data | AWS Lambda – AWS IoT Core – Amazon SageMaker – FireStore (NoSQL)

Anemia Diseases Detection using Ensemble Learning | [Link for project](#)

- Engineered a sophisticated ML hybrid model combining various strong learners, boosting algorithm precision by 30% and achieving an accurate prediction rate of 99.05%
- Reduced operational errors by 40% through enhanced model performance to serve patients in detecting early signs of anemia

Field and Tools: Medical - ML | Python - Scikit-learn (Machine Learning) - SMOTE - Seaborn - Matplotlib

Text Sentimental Analysis with Speech Recognition | [Link for project](#)

- Composed an advanced machine learning model to analyze sentiments by processing acoustic input through a Speech Recognition system, thereby significantly enhancing the accuracy of 98.6% of classifying and efficiency of sentiment analysis
- Presenting a robust model to help users integrate the tool within multiple uses to analyze the incoming feedback and save 60% of time to revise

Field and Tools: NLP - ML | Regular expressions – Python - nltk - genism - Scikit-learn (Machine Learning)

Optical Character Recognition (OCR) using DL | [Link for project](#)

- Implemented OCR system that combines low-level computer vision techniques with deep learning and optimization techniques for character recognition
- Utilized the advantage of transfer learning and used pre-trained model with optimization methods to enhance the training process
- Achieved accuracy of 95% with good generalization resulting in excellent performance of extracting typed words

Field and Tools: Computer Vision | Python – Tensorflow – Scikit-learn – matplotlib – Seaborn

Forest Fire Detection using Federated Learning Techniques

- Made advantage of different types of federated aggregation such as FedPSO, FedSGD, Differential Privacy Aggregation and Weighted Aggregation with methods that 80% overcome communication overhead
- Operated a global model that is capable of detecting fire with accuracy of 98.21% that overtakes related works of research papers for the same task

Field and Tools: Nature – DL – Federated Learning | Python – Tensorflow – PyTorch – PySift – Swarm Optimization - Docker

TECHNICAL SKILLS

Programming Languages: Python – C/C++ - Java – Prolog – C-Arduino – Verilog

Artificial Intelligence: Machine Learning – Deep Learning – Computer Vision – Optimization techniques – Data Processing – Reinforcement Learning – Federated Learning – Swarm Optimization – Transformers – Large Language Models (LLMs)

AI Frameworks: Scikit-learn – Tensorflow / Keras – PyTorch – HuggingFace – PySift – Flower – regex – Ultralytics – SpaCy – nltk – gensim – OpenCV

Database management: MySQL – SQL Server – Oracle – SQLite – Firebase – MongoDB

Data Analysis and Visualization Frameworks: PowerBI – Matplotlib – Seaborn – Plotly – Pandas - NumPy

Cloud Providers: Google Cloud (GCP) – AWS (S3 – Lambda – GLUE – Athena – CloudFormation – SageMaker)

Version Control System: Git – Github

IoT, Embedded Systems and Robotics: Arduino UNO – Arduino Mega – Raspberry PI – ESP8266 – ESP32

Operating Systems: Windows – Linux – Ubuntu

Tools and Platforms: Kaggle – Google Collab – Visual Studio – Anaconda – PyCharm

Additional Skills: Data orchestration – Data modeling – Algorithms and Data Structure – Business Analytics – Thinking and solving

CERTIFICATES

AWS Academy Graduate - AWS Academy Data Engineering | [Certificate link](#)

IEEE Victoris 2.0: Data Science Competition Finalist | [Certificate link](#)

ITI Summer Training – Machine Learning / AI | [Certificate link](#)

ST Smart – Robotics Level 2 | [Certificate link](#)

ST Smart – Robotics Level 1 | [Certificate link](#)

LANGUAGES

- **Arabic:** Native
- **English:** Professional Working Proficiency