

Abdelrahman Arafa

Machine Learning Engineer

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PROFILE

Machine Learning Engineer with a strong foundation in developing data-driven applications across diverse domains such as physics modeling, financial simulations, and data visualization.

PROFESSIONAL EXPERIENCE

Machine Learning Engineer | Data Scientist

Upwork 🌐

01/2022 – present

- **Immersion Analytics** 🌐
 - Developed End-to-End Visualizations (18 dimensions) involving Data Extraction-Scraping, Preprocessing, and Visualization using (Python, Pandas, and Visualizer).
 - Developed a High-level Python API (With Documentation) for end users to facilitate scripting their visualizations.
- **Other projects include**
 - Natural Language Processing
 - Developed a sentiment analysis model to evaluate user feedback. (Python, Pytorch)
 - Retrieval Augmented Generation (RAG)
 - Developed a pipeline to store data and query a large language model for answers based on the stored information. (Python, Pytorch)
 - Financial Modeling and Simulation
 - Developed Deep learning Models to forecast stock prices. (Python, Pytorch)
 - Developed backtesting applications to evaluate and benchmark various trading strategies. (C#, Python)
 - Algorithmic trading
 - Developed automated financial trading platforms that execute trades based on data-driven strategies. (C#, Java)

Scada Operation Engineer

VA-Tech Wabag 🌐

05/2019 – 04/2021 | Cairo, Egypt

Water Treatment Plant Operation & Scada Engineer.
Contributed To :

- Developing basic data analysis & statistics software for easier exploration of plant data and report gathering (Using C#-WFA).

Embedded System Developer

TechMaker

03/2018 – 05/2019 | Alexandria, Egypt

Programming Embedded system devices.

Contributed to :

- Temperature & Humidity Controller (Using MikroC, pic16f877a controller).
- Azan Clock (Using MikroC , pic16f877a controller).

EDUCATION

Artificial Intelligence Professional Program

Information Technology Institution ITI - Powered by EPITA 🌐

04/2021 – 01/2022

Graduation Project

Physics Modeling (Supervised by BrightSkies)

- Developing a Physics Informed Neural Network (PINN) for seismic applications.

Bachelor of Nuclear and Radiation Engineering

Alexandria University

2011 – 2016

Graduation Project

Nuclear Reactor 3D Visualization

- Python Scripting the 3D simulation environment (using Vizard 3D), and 3D Models Design (Blender3D).

EXTRACURRICULAR ACTIVITIES

Kaggle In-Class Competitions

Data Analysis | Machine Learning

2021

Seoul Bike Rental Prediction (3rd Place 🌐).

- Data Analysis, 🌐 Feature Engineering and Model Training.

Dry-Beans-Classification (1st Place 🌐).

- Data Analysis 🌐 , Feature Engineering, Model Training.

Game Development

- Jack The Giant (2d Arcade Game, Unity Engine C# scripting, for Android devices)

- Memorize (2d Puzzle Game, Unity Engine C# scripting, for Android devices)

- Interactive 3d graphic scenes (Directx and C++).

SKILLS

Technical Skills — Strong Experience in Data Preparation Exploration and Analysis, Building Machine Learning Models either Supervised or Unsupervised. • Familiar with Cuda for Parallel Programming.

Confident Using libraries like : — Numpy - Pandas - Scipy - Sklearn - Matplotlib - Seaborn - Plotly - Dash -TensorFlow - PyTorch - Django.

Programming Languages — Python, Java, C/C++, C#