Muhammed Mamdouh Salah

Software Engineer

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EDUCATION

Artificial Intelligence Professional Training Program (AI-Pro)   **April 2021 - Present**
Information Technology Institute(ITI) • Nasr City

Machine Learning Nano degree   **December 2021 – December 2021**
Udacity (egFWD)

Bachelor Degree in Petroleum Engineering   **September 2013 – July 2018**
Suez University • Suez, Egypt

EXPERIENCE

Machine Learning Intern
Softec Technologies • Maadi, Cairo   **October 2021 – January 2022**

- **TSP Multithreaded Application**
  October 2021- November 2021

  • Designed Multithreaded Application to solve Traveling Salesman Problem using Genetic Algorithm using functional programming.
  • Implemented the design and all required genetic algorithm operators.
  • Implemented heuristic operators to improve the algorithm optimization.

- **Cluster TSP Multithreaded Application**
  November 2021- December 2021

  • Designed Cluster to solve TSP using Coarse-grained genetic algorithm with adaptive migration to run on a master-slave cluster.
  • Implemented Worker Application to Host Island(subpopulation) and run Multithreaded Application.
  • Implemented Master Application to Synchronize the Workers through message queuing protocol communication(RabbitMQ).

Freelancer Machine Learning Engineer
Upwork   **November 2021 - Present**

Natural Gas Distribution Engineer
Maya Gas • El Ayat, Al Jizah   **April 2020 - August 2020**

Mathematics and Physics Online Tutor
Dars • Online   **February 2017 – Present**

PROJECTS

Cyber-Attacks big data analysis and Classification
January 2022

• Used Pyspark to performed data analysis on cyber-attacks dataset.
• Built a binary classification model to classify normal cases from attacks.
• build a multiclass classification model to classify attack type.

Movies Industry Dashboard
October 2021

• Performed data analysis on IMDB movies dataset.
• Designed and made an interactive dashboard to present my analysis.

Dry Beans Classification
September 2021

• Performed EDA on the data as well as features transformation.
• Compared different classification models for Classifying Dry Beans.

Seoul Bike Rental Prediction
August 2021

• Performed EDA on the data as well as features transformation.
• Compared different classification models for Predicting the number of rented bikes in the city of Seoul.

Wuzzuf Egypt Jobs Data Analysis Web Service
June 2021

• Performed data analysis on Wuzzuf Egypt Jobs dataset.
• Built a web application to present my analysis as well as a web tester using JAVA.

CERTIFICATIONS and Courses

- **AWS Machine Learning Specialty**
  AWS
- **Deep Learning Specialization**
  Coursera

- **Data Scientist Track**
  datacamp.com

Technical SKILLS

- **Programming Language:** Python, Java, C#

- **Programming Paradigms:** OOP, Functional, Parallel.

- **Machine Learning:** Linear and Logistic Regression**,** Support Vector Machine**,** Tree-based models (Decision Tree, Random Forest, AdaBoost and Gradient boost)**,** Bagging and Boosting, Unsupervised Learning (Clustering, Dimensionality reduction)

- **Deep Learning:** (Optimization: ADAM, RMSPROP), (Normalization: L1, L2, Batch Normalization)

- **Machine Learning Libraries:** Scikit-learn, TensorFlow, Keras

- **RabbitMQ**

- **Databases:** SQL, MongoDB, Redis, Cassandra

- **Recommendation System:** Rank-based**,** Knowledge-based Recommender**,** Content-based Recommender**,** Collaborative filtering based Recommender

- **Hybrid Metaheuristics Algorithms:** Genetic Algorithm, Coarse-grained Genetic Algorithm with Adaptive Migration.

- **Data Analysis:** Pandas, Numpy, Scipy, Pyspark

- **Data Visualization:** Matplotlib, Seaborn, Plotly

Soft SKILLS

Leadership skills:

- **From managing an entire department of natural gas technicians at Maya Gas.**

Communication skills:

- **From Working as a Private and Online Tutor.**

Teamwork:

- **From working on various projects with my colleagues in AI-Pro program.**

References are present upon request.