Arwa ibrahim mohamed

Machine Learning Engineer

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LinkedIn-arwa ibrahim My-Portfolio GitHub Kaggle

Profile

Passionate about Artificial Intelligence and Computer Vision, with hands-on experience in developing Machine Learning and Deep Learning models. Participated in **ECPC 2022**, which enhanced my **problem-solving and algorithmic thinking** skills. As **Vice President of IEEE SHA Technical Community** for three years, I led **technical initiatives, workshops, and research discussions** to drive innovation and technological advancement. I am committed to staying updated with the latest AI developments and applying them in **cutting-edge work environments**.

Education

EL-Shorouk Academy 2022 – 2025
Computer Science

Professional Experience

Artificial Intelligence Trainee 08/2024 – 09/2024
Information Technology Institute (ITI) Cairo, Smart Villages

- Completed an intensive AI training program covering **Machine Learning, Deep Learning, and Data Science**.
- Developed proficiency in **Python, NumPy, Linear Algebra, and Probability for AI applications**.
- Worked on **data preparation, exploration, and optimization techniques** to enhance model performance.
- Gained a solid foundation in **Neural Networks and Deep Learning architectures**.

Python Instructor (Part-time Role, On-site) 07/2023 – 10/2023
Robogramming Academy Banha, Eygpt

- Taught Python programming to students aged **8-18**, focusing on **problem-solving and logical thinking**.
- Designed interactive coding activities and small projects to engage students.
- Provided feedback on students' projects to improve their coding practices.

Projects

Titanic Survival Prediction (Machine Learning Classification)
Developed a classification model to predict passenger survival using Logistic Regression, Decision Trees, and Random Forests. Applied data preprocessing techniques and optimized performance with Grid Search CV, achieving **97% accuracy**. Evaluated the model using precision, recall, and F1-score.

Breast Cancer Classification
Developed a machine learning model to classify breast tumors as benign or malignant using Logistic Regression and Decision Trees. Applied data preprocessing techniques, including handling missing values and feature scaling, to enhance model performance. Achieved **97.3% accuracy** and evaluated the model using precision, recall, and F1-score for reliable predictions.

House Price Prediction
ML Regression
Developed a regression model using Random Forest Regressor and XGBoost to estimate house prices based on key features such as square footage, location, and number of bedrooms. Applied feature engineering techniques, including price per square foot and proximity to amenities, to enhance model performance. Achieved an **R^2 score of 0.80** and a **Mean Absolute Error (MAE) of 0.31**, ensuring reliable predictions.

Skills

Technical Skills

- **Programming Languages:** Python (Proficient), C++ (Intermediate) , C# (Intermediate)
- **Machine Learning:** Supervised & Unsupervised Learning, Deep Learning, NLP, Reinforcement Learning
- **Software & Frameworks:** TensorFlow, Keras, PyTorch, Scikit-learn, OpenCV, Pandas, NumPy, Matplotlib, Seaborn
- **Tools & Platforms :**Git, VS Code, Jupyter Notebook, Google Colab

Soft Skills

- Problem-solving
- Leadership
- Teamwork
- Communication
- Presentation skills

SW Fundamentals

- OOP
- Data Structures & Algorithms
- Operating Systems
- Networks
- Database**:** SQL

Certificates

Machine Learning with Python
IBM

Ml & Feature Engineering
GDSC

Artifical Intelligence
ITI

Intro to ChatGPT and Generative AI
365DataScience

additional Certification

Programming Competition

GEM Hackathon The Grand Egyptian Museum 12/2024
Ministry of Tourism and Antiquities
*"Participated in the GEM Hackathon at the Grand Egyptian Museum a **48-hour**, collaborating with a multidisciplinary team to develop an innovative solution for enhancing the souvenir photo experience. Gained experience in teamwork, problem analysis, and delivering AI-driven technical solutions in a competitive environment."*

Nasa Space Apps Hackathon 10/2024
Participated in Hackathon a **24-hour** global challenge, tackling real-world problems with innovative solutions. Developed skills in UI design, problem-solving, team leadership, teamwork, time management, and adapting to challenges in a high-pressure environment.

Egyptian Collegiate Programming Contest (ECPC) 2023
Participated in ECPC , competing in algorithmic problem-solving under time constraints. Developed skills in problem-solving, algorithm design, teamwork, and time management.

Languages

Arabic — Native/Bilingual

English — Proficient