OMAR ELGENDY

Machine Learning Engineer | Data Scientist

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• Dubai, United Arab Emirates

Summary

Experienced Machine Learning Engineer and Data Scientist with 5+ years of delivering production-ready AI solutions across Machine Learning, Natural Language Processing, Computer Vision. Specialized in scalable MLOps, cloud deployment, and Model optimization, with deep expertise in fine-tuning large-scale transformer and deep learning models using advanced methods like QLoRA, LoRA, and RLHF. Successfully integrated AI solutions into real-world products, driving measurable gains in accuracy, efficiency, and business outcomes. Published researcher with peer-reviewed contributions in healthcare AI, NLP, and predictive modeling.

Experience

Virtue Therapy
Dubai, United Arab Emirates

Machine Learning Engineer
01/2023 - Present

- Developed and deployed production-grade LLM applications for chatbots, document Q&A, and intelligent assistants using Transformers, LangChain, and RAG, achieving over 85% accuracy in real-world tasks.
- Fine-tuned transformer models with QLoRA and LoRA across tourism, agriculture, and healthcare, improving task accuracy by up to 18%.
- Built scalable MLOps pipelines on AWS SageMaker, MLflow, Airflow, and Torch serve, cutting deployment time by 30% and automating versioning, CI/CD, and monitoring.
- Held regular on-site and online meetings with stakeholders and clients, coordinated PoCs, and maintained client engagement post-deployment to ensure sustained performance and satisfaction.
- Engineered optimized prompts and RLHF to enhance LLM summarization and multi-turn dialogue performance.
- Partnered with product and engineering teams to scale AI features across applications, increasing user satisfaction metrics.
- Deployed serverless AI APIs using Docker and AWS Lambda, reducing hosting costs by 25% and maintaining sub-3-second response latency under 1000 RPS.

Virtue Therapy
Dubai, United Arab Emirates

Junior Machine Learning Engineer
02/2021 - 01/2023

- Built and deployed machine learning models for user behavior prediction using mood analysis, psychological profiling, and sentiment analysis, improving engagement insights by 30%.
- Led end-to-end ML workflows — data preprocessing, exploratory data analysis (EDA), model training, tuning, and evaluation — using Scikit-learn, TensorFlow, and PyTorch, increasing model precision by 20%.
- Supported and participated in designing and implementing pipelines for continuous integration and deployment (CI/CD) of machine learning models.
- Implemented experiment tracking and model versioning for better reproducibility and lifecycle management.
- Conducted continuous research and integrated the latest AI advancements to upgrade system performance and company technology.
- Designed and trained classic machine learning models (e.g., random forests, XGBoost, SVMs) for structured data tasks, improving prediction accuracy by up to 22% over baseline.
- Conducted A/B testing and post-deployment validation to ensure model accuracy and reliability in production.

University of Sharjah
Sharjah, United Arab Emirates

Research Assistant
08/2020 - 02/2021

- Authored 6+ peer-reviewed AI research papers—including 2 in Q1-ranked journals—with over 350 total citations and a h-index of 3, focusing on deep learning, NLP, and clinical applications.
- Developed Presented an optimized Arabic text summarization approach in Master's thesis by fine-tuning transformer models with Radial Basis Function Neural Networks, reducing training time by 45% while maintaining high performance.
- Developed BERT-based models for Arabic fake news detection, achieving a 90%+ classification accuracy and published in high-impact NLP journals.
- Designed and Experimented Deep Learning architectures for Alzheimer's detection using MRI and for heart failure prediction using structured medical datasets.

Education

University of Sharjah
Sharjah, United Arab Emirates

M.Sc. in Computer Engineering, minor Artificial Intelligence
09/2020 - 12/2024

- Thesis: Optimizing Large Language Models for Arabic Text Summarization utilizing RBF Networks

University of sharjah
Sharjah, United Arab Emirates

BS. in Computer Engineering
09/2016 - 08/2020

- Senior Project: EEG based Computer Command Input for paralyzed people

Publications

The 2024 OkIP International Conference on Advances in Health Information Technology (AHIT) - OkIP Books
— https://doi.org/10.55432/978-1-6692-0007-9_4
2024

Heart Failure Prediction using Machine learning with Meta-heuristic feature selection techniques
O. Elgendy, A. B. Nassif, and B. Soudan

The 2024 OkIP International Conference on Advances in Health Information Technology (AHIT) - OkIP Books
— https://doi.org/10.55432/978-1-6692-0007-9_3
2024

Text Toxicity Level Detection using Deep Contextualized Embedding Models
O. Elgendy, A. B. Nassif, and B. Soudan

2023 Advances in Science and Engineering Technology International Conferences (ASET) - IEEE
— https://ieeexplore.ieee.org/document/10180640/
2023

Alzheimer Detection using Different Deep Learning Methods with MRI Images
O. Elgendy and A. B. Nassif

Neural Computing and Applications - Springer
— https://doi.org/10.1007/s00521-022-07206-4
2022

Arabic fake news detection based on deep contextualized embedding models
A. B. Nassif, A. Elnagar, O. Elgendy, and Y. Afadar

Artificial intelligence in medicine - ScienceDirect
— https://doi.org/10.1016/j.artmed.2022.102276
2022

Breast cancer detection using artificial intelligence techniques: A systematic literature review
A. B. Nassif, M. A. Talib, Q. Nasir, Y. Afadar, and O. Elgendy

Skills

Python · Machine Learning · Deep Learning · TensorFlow · PyTorch · Transformers · Git · Neural Networks · Langchain · MLOps · AWS · XGBoost · Airflow · MLflow · ReAct · SQL · AWS SageMaker · NumPy · Pandas · CI/CD · Matplotlib · PostgreSQL · Docker · Keras · Flask API · FastAPI · Agile · OOP · Linux · Data Structures · A/B Testing · C/C++ · GCP · Jupyter · NLTK · Apache Spark · GitHub · LangGraph · MongoDB · Bash · Azure · Torch serve · Prometheus · Grafana

Languages

Arabic Native   English Native   French Beginner

German Beginner