OMAR ELGENDY

Machine Learning Engineer | Data Scientist

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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

Almosafer
Dubai, United Arab Emirates

Machine Learning Specialist
09/2025 - Present

- Built and deployed a production ML system that lifted flight add-on profits by 55%.
- Designed a reinforcement learning solution for Google Ads bidding that cut acquisition costs by 30%.
- Developed scalable MLOps pipelines using AWS SageMaker and MLflow to automate training and deployment.

Virtue Therapy
Dubai, United Arab Emirates

Machine Learning Engineer
01/2023 - 08/2025

- 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 — 2024
— https://doi.org/10.55432/978-1-6692-0007-9_4
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 — 2024
— https://doi.org/10.55432/978-1-6692-0007-9_3
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 — 2023
— https://ieeexplore.ieee.org/document/10180640/
Alzheimer Detection using Different Deep Learning Methods with MRI Images
O. Elgendy and A. B. Nassif

Neural Computing and Applications - Springer — 2022
— https://doi.org/10.1007/s00521-022-07206-4
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 — 2022
— https://doi.org/10.1016/j.artmed.2022.102276
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