MOHAMED KHALED GHAREEB

AI & Machine Learning Engineer | Generative AI Specialist

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Location: Egypt | **Availability:** July 2025

PROFESSIONAL SUMMARY

AI and Machine Learning Engineer with expertise in Generative AI, NLP, and Computer Vision. Specialized in Large Language Models, RAG systems, and Deep Learning with proven results: 40% reduction in response times, 92% model accuracy, and 99.5% system uptime. Expert in MLOps, AWS deployment, and building scalable AI applications.

TECHNICAL SKILLS

Programming Languages: Python, SQL

Machine Learning: PyTorch, TensorFlow, Keras, Scikit-learn, CNN, RNN, LSTM, Transformers, Transfer Learning

Generative AI & LLMs: OpenAI API, Hugging Face, LangChain, FAISS, RAG Architecture, Prompt Engineering, Fine-tuning

Computer Vision: OpenCV, Image Classification, Object Detection, Medical Image Analysis

MLOps & Deployment: Docker, Git, CI/CD, AWS EC2, AWS S3, AWS Lambda, AWS SageMaker, FastAPI, Flask, RESTful APIs, Nginx

Databases: PostgreSQL, MySQL, MongoDB, SQLite

Data Analysis: Pandas, NumPy, Matplotlib, Seaborn

Web Development: Django, Streamlit, HTML, CSS

PROFESSIONAL EXPERIENCE

AI Engineer | Graduation Project

Memorixal - Healthcare Assistant Platform | Menoufia University | January 2025 - July 2025

- Architected AI-powered healthcare platform reducing response time by 40% and processing 500+ daily interactions
- Engineered AI storytelling feature using Large Language Models achieving 95% relevance rating from healthcare professionals
- Implemented real-time tracking system with FastAPI, LangChain, and Docker achieving 99.5% uptime
- Designed scalable backend architecture with PostgreSQL and HIPAA-compliant security protocols
- Deployed production system on AWS EC2 with automated CI/CD pipeline and comprehensive testing

Machine Learning Engineer

Therapeutic Chatbot Application | Independent Project | September 2024 - December 2024

- Developed therapeutic chatbot increasing user engagement by 30% with 85% satisfaction rating across 200+ users
- Optimized machine learning pipeline reducing latency from 6 seconds to 2 seconds (67% improvement)
- Implemented RAG architecture using FAISS vector database indexing 10,000+ conversation patterns
- Fine-tuned Large Language Models achieving 90% accuracy in emotional tone matching
- Built production-ready REST API with JWT authentication serving 1,000+ daily requests

AI Developer

Character Simulator with RAG System | Independent Project | June 2024 - August 2024

- Built character simulation system supporting 10+ distinct AI personalities with 90% consistency rating
- Implemented Retrieval-Augmented Generation architecture for contextually accurate responses
- Optimized vector search algorithms reducing query time by 50%
- Integrated memory management system handling 50,000+ interaction records

Computer Vision Engineer

Eye Disease Detection System | Menoufia University | March 2024 - June 2024

- Trained Convolutional Neural Network achieving 92% validation accuracy with 94% precision and 91% recall across 8 disease categories
- Preprocessed and augmented 5,000+ medical images improving model generalization by 15%
- Implemented ResNet-50 transfer learning reducing training time by 60%
- Deployed FastAPI inference API handling 100+ predictions per minute

EDUCATION

Bachelor of Science in Artificial Intelligence

Menoufia University | Expected July 2025

Specialization: Machine Intelligence | GPA: 2.71/4.0 (Good)

CERTIFICATIONS

AI Summer Training Program

National Telecommunication Institute (NTI) | 2022

120 hours covering Machine Learning, Deep Learning, Computer Vision, Natural Language Processing

Odoo ERP Training - AI Integration

2024 | Focus on AI integration with ERP systems including Financial Automation, Sales Optimization, Inventory Management

KEY ACHIEVEMENTS

- Reduced healthcare platform response time by 40% while maintaining 99.5% uptime
- Achieved 92% accuracy in medical image classification across 8 disease categories
- Optimized chatbot pipeline reducing latency by 67% (from 6s to 2s)
- Built RAG system managing 50,000+ interactions with 90% consistency rating
- Deployed production APIs serving 1,000+ daily requests with JWT authentication

LANGUAGES

English: Advanced (Professional Working Proficiency)

Arabic: Native

ADDITIONAL INFORMATION

- Open-source contributor on GitHub and participant in AI competitions
- Available for immediate employment upon graduation (July 2025)
- Open to remote work opportunities and relocation
- Preferred roles: Machine Learning Engineer, AI Engineer, Generative AI Engineer, NLP Engineer

References available upon request