

SUMMARY

AI Engineer and Data Scientist with proven experience designing, optimizing, and deploying large-scale AI systems. Strong expertise in LLMs, computer vision, and RAG pipelines, with measurable success in production-ready deployments and GPU/CPU optimization. Skilled in leading cross-functional teams, mentoring developers, and managing full AI project lifecycles from research to delivery. Currently pursuing an M.Sc. in Data Science, holding a B.Sc. in Computer Science and Artificial Intelligence. Known for strong problem-solving, communication, and leadership skills, with a focus on building impactful, data-driven solutions.

EDUCATION

Master of Data Science , Arab Academy for Science, Technology and Maritime Transport	<i>Oct 2025 – Sep 2028</i>
Master's degree in Data Science to advance my expertise in analytics and AI.	
Bachelor of Computer Science & Artificial Intelligence , Nile University	<i>Oct 2021 - Jun 2025</i>
CGPA: 3.6/4.0 Full Merit Scholarship (2021-2025)	
Coursework: Deep Learning, Machine Learning, Computer Vision, NLP, Reinforcement Learning, Databases	
Leadership Activities: ITCS Students' Representative (1000+ peers) ICPC Community Member IEEE Technical Member	

SKILLS

Programming: Python, C/C++, Java, SQL, JavaScript
AI/ML Frameworks: PyTorch, TensorFlow, Keras, Scikit-learn, CUDA, OpenCV
NLP/LLM: Hugging Face, Transformers, LoRA, RAG, Prompt Engineering, Whisper
Tools & Platforms: Git, FastAPI, Docker, Linux, PostgreSQL, NVIDIA Omniverse, Vector Databases
Soft Skills: Leadership, Communication, Collaboration, Problem-Solving, Innovation, Critical Thinking, Adaptability, Mentorship, Analytical Reasoning

TECHNICAL EXPERIENCE

Co-Founder & CTO <i>Vionex Digital Solutions, Cairo, Egypt (Hybrid)</i>	<i>Jul 2025 – Present</i>
• Built and deployed 6+ AI-driven products across e-commerce, healthcare, and education sectors	
• Led a 10-member tech team, improving delivery efficiency by 35%	
• Directed digital transformation strategies impacting 20+ clients in MENA	
Technical Lead, AI Department <i>Retailo, Cairo, Egypt (Hybrid)</i>	<i>Jul 2025 – Present</i>
• Led AI initiatives reducing model latency by 30% and increasing PoC success rate by 25%	
• Managed multi-disciplinary teams for NLP and CV solutions in retail analytics	
• Promoted collaboration and innovation across technical and business units	
AI Instructor <i>National Telecommunications Institute (NTI), Cairo, Egypt</i>	<i>Aug 2025 – Present</i>
• Trained 200+ professionals in AI fundamentals and applied ML/DL techniques	
• Designed interactive sessions improving learner engagement by 40%	
LLM Freelancer <i>Digis Squared, Remote</i>	<i>Apr 2025 – Jul 2025</i>
• Deployed optimized LLMs with 40% faster inference and 60% cost savings	
• Fine-tuned Mistral and LLaMA for document summarization and classification	
AI Engineer <i>Singularity, Cairo, Egypt</i>	<i>Jul 2024 – May 2025</i>
• Led LLM team of 5 engineers delivering scalable NLP systems	
• Built RAG chatbots improving document retrieval accuracy by 45%	
• Applied LoRA and quantization cutting inference cost by 50%	

Junior Research Assistant	Jul 2024 – Jul 2025
<i>Nile University, Giza, Egypt</i>	
<ul style="list-style-type: none"> Built 3-stage AI pipeline for radiology reports enhancing accuracy by 32% Co-authored a 2025 <i>Bioengineering</i> publication on scene-graph medical AI 	
DEMI Coding Instructor	Jun 2024 – Aug 2025
<i>iSchool, Cairo & Giza, Egypt</i>	
<ul style="list-style-type: none"> Taught 150+ students coding and AI fundamentals using Python Boosted student project completion rate by 60% 	
Junior Teaching Assistant	Oct 2022 – Jun 2023
<i>Nile University ITCS School</i>	
<ul style="list-style-type: none"> Supported AI and Math courses for 180+ students; improved outcomes by 20% Strengthened student engagement through personalized tutoring 	

PROJECTS

XScene: Automated Radiology Report Generation – [\[Link\]](#)

Deformable DETR, EGTR, Mistral-7B, PyTorch, FastAPI

3-stage AI pipeline generating accurate radiology reports; improved report quality by 30%.

Katana NLP-to-SQL Platform – [\[Link\]](#)

FastAPI, PostgreSQL, SQLCoder, llama.cpp

Offline NLP-to-SQL system reducing query time to <1s for telecom analytics.

Enterprise RAG System – [\[Link\]](#)

RAG, PyTorch, Hugging Face, FastAPI

RAG-based QA system with semantic search and confidence scoring; 90% retrieval accuracy.

Speech-to-Speech Translation – [\[Link\]](#)

TTTS, Whisper, PyTorch, FastAPI

Real-time voice translation system achieving 2s latency across 5 languages.

Hieroglyphic Translation to English – [\[Link\]](#)

Transformers, Vision Models, Hugging Face

AI model translating ancient hieroglyphics with 85% text recognition accuracy.

Production-to-Instruction & AgriCash Avatar – [\[Link\]](#)

PyTorch, LLMs, FastAPI, TTTS

Converted production logs into readable instructions and built a voice-guided AI avatar.

PUBLICATIONS

Osama, M., Mamdouh, D., Attia, M., Mohamed, N., Lotfy, A., Arafa, T., Rashed, E.A., & Khoriba, G. (2025). XScene: Automated Radiology Report Generation Using Scene Graphs. *Bioengineering*, 12(7), Article 693. [\[Link\]](#)

ACHIEVEMENTS

- 1st Place – Graduation Project Showcase (Spring 2025), Nile University (XScene Radiology AI)
- 3rd Place – IEEE Helwan RAS Auxillio 6.0 (2023) | 2nd Place – IEEE Helwan RAS Auxillio 5.0 (2022)