

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 Oct 2025 – Sep 2028
Master’s degree in Data Science to advance my expertise in analytics and AI.
Bachelor of Computer Science & Artificial Intelligence, Nile University Oct 2021 - Jun 2025
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 Jul 2025 – Present
Vionex Digital Solutions, Cairo, Egypt (Hybrid)
• 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 Jul 2025 – Present
Retailo, Cairo, Egypt (Hybrid)
• 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 Aug 2025 – Present
National Telecommunications Institute (NTI), Cairo, Egypt
• Trained 200+ professionals in AI fundamentals and applied ML/DL techniques
• Designed interactive sessions improving learner engagement by 40%
LLM Freelancer Apr 2025 – Jul 2025
Digis Squared, Remote
• Deployed optimized LLMs with 40% faster inference and 60% cost savings
• Fine-tuned Mistral and LLaMA for document summarization and classification
AI Engineer Jul 2024 – May 2025
Singularity, Cairo, Egypt
• 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 <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	Jul 2024 – Jul 2025
DEMI Coding Instructor <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%	Jun 2024 – Aug 2025
Junior Teaching Assistant <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	Oct 2022 – Jun 2023

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** – [\[Link\]](#)
XTTS, 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, XTTS
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)