

# Ahmed Mohamed Abdelmoneim

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## Professional Summary

Motivated and accomplished AI Engineer with hands-on experience in machine learning, deep learning, NLP, MLOps, and big data. Proven track record of developing production-grade AI systems, award-winning research projects, and optimized models deployed via cloud infrastructure (Azure, AWS). Skilled in Python, C++, SQL, and PyTorch, with a strong foundation in reinforcement learning and LLM pipelines. Passionate about leveraging AI to solve real-world problems at scale in high-impact environments.

## Education

### Nile University

Bachelor of Science in Artificial Intelligence; GPA: 3.5 (40% Merit Scholarship)

Cairo, Egypt

Expected Fall 2025

- Relevant Coursework: ML, DL, NLP, RL, Big Data, AI Ethics, Cloud Computing
- Programming Languages: Python, C++, SQL, Java, C

## Experience

### Data Engineer Intern

Ministry of Communications & IT (DEPI)

Apr 2024 – Dec 2024

Cairo, Egypt

- Designed scalable data pipelines using Microsoft SQL Server, Power BI, and Azure ML
- Developed and deployed ML models using Scikit-learn + MLflow with Flask on Azure
- Implemented MLOps practices for CI/CD workflows with model tracking and versioning

### Junior Research Assistant

CIS, Nile University

Jul 2024 – Sep 2024

Cairo, Egypt

- Engineered anomaly detection and big data analytics tools for security applications
- Co-authored research submitted to IEEE, optimizing ML algorithms for performance
- Led literature reviews, experiments, and technical writing for publication

### Junior Teaching Assistant

Nile University

Oct 2023 – Jun 2024

Cairo, Egypt

- Taught Python and C++ fundamentals and AI concepts to undergraduates
- Developed hands-on labs and supported students in project-based learning

## Projects

### IRIS AI: Multi-Agent Tutoring System for the Visually Impaired | Python, Azure, Whisper, Qwen-32B

Dec 2025

- Built an Arabic educational platform with zero-shot TTS and accessible UI
- Outperformed Tesseract by 42.4% WER using custom Arabic OCR (QariV03)
- Integrated Whisper, Qwen-32B, MaskGCT, deployed on Azure with full CI/CD
- GitHub: [github.com/amn3m/ABET\\_Accreditation](https://github.com/amn3m/ABET_Accreditation)

### Multi-Agent RL for ABET Automation | Python, DQN, Optuna

May 2025

- Designed DQN agents to automate document generation, validation, and planning
- Leveraged Optuna for distributed hyperparameter tuning and performance gains
- GitHub: [github.com/amn3m/ABET\\_Accreditation](https://github.com/amn3m/ABET_Accreditation)

### Bitcoin Transaction Decision Support System | Python, XGBoost, Prophet, Streamlit

May 2025

- Integrated 460K+ transactions into a star schema with 99.97% data accuracy
- Deployed ML models (XGBoost, Prophet, Isolation Forest) in Streamlit dashboard
- Achieved 95% fraud detection precision, 98% wallet risk scoring
- GitHub: [github.com/amn3m/Bitcoin-Transaction-Live-Streaming-Decision-Support-System](https://github.com/amn3m/Bitcoin-Transaction-Live-Streaming-Decision-Support-System)

### MaskGCT Arabic TTS Model | Python, PyTorch, CUDA, MPS

May 2025

- Created two-stage, non-autoregressive MaskGCT-based Arabic TTS model
- Achieved inference loss of 0.9997 using low-resource GPUs (Apple MPS, CUDA)

- GitHub: [github.com/maryamabdallahmohamed/Zeroshot\\_TTS](https://github.com/maryamabdallahmohamed/Zeroshot_TTS)

#### Cloud Anomaly Detection System | *Python, KNN, Clustering*

May 2024

- Detected usage threats across AWS, Google, Apple logs using KNN + Clustering
- Designed anomaly regression with temporal heatmaps for proactive monitoring
- GitHub: [github.com/amn3m/Anomaly-Detection-in-Cloud-Data-Usage-Data-Analysis-Project](https://github.com/amn3m/Anomaly-Detection-in-Cloud-Data-Usage-Data-Analysis-Project)

#### Sea-Level Forecasting for Fiji (20+ Years of Data) | *Python, LSTM, GBM, Spark, Hadoop*

Dec 2024

- Built LSTM and GBM models using Spark and Hadoop
- Achieved MAE of 0.02 and RMSE of 0.027 for long-term forecasting
- GitHub: [github.com/amn3m/Sea-Level-Rise-Forecasting-for-Fiji](https://github.com/amn3m/Sea-Level-Rise-Forecasting-for-Fiji)

### Technical Skills

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**Languages:** Python, C++, SQL, Java, Bash, HTML, CSS, JavaScript

**AI & Machine Learning:** Scikit-learn, PyTorch, TensorFlow, Transformers, NLP, TTS, Whisper, XGBoost, DQN, Optuna, Isolation Forest, Prophet

**MLOps & Deployment:** MLflow, Docker, Kubernetes, FastAPI, Flask, Streamlit, GitHub Actions, CI/CD

**Big Data & Cloud Platforms:** Apache Spark, Hadoop, Azure ML, AWS, Google Cloud, SQL Server

**Visualization & Analytics:** Power BI, Tableau, Matplotlib, Seaborn

**Tools & Environments:** Git, Linux, VS Code, Jupyter, Conda, Microsoft Office Suite

### Leadership & Activities

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#### Operations Team Member

Oct 2022 – Sep 2023

*Nile University Entrepreneurship Club*

*Cairo, Egypt*

- Led planning, logistics, and optimization for tech entrepreneurship events

#### Event Organizer

Oct 2020 – Jul 2021

*Cairo University IEEE WIE Chapter*

*Cairo, Egypt*

- Managed technical sessions, venue planning, and sponsor negotiations

### Certifications (In Progress / Targeted)

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Microsoft Azure Data Engineer Associate

Hugging Face NLP Certificate

DeepLearning.AI Reinforcement Learning Specialization