Amr Yasser

MLOps Engineer

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EDUCATION

University of Science and Technology, Zewail City   **Sep 2023 – Expected Jun 2027**

B.Sc. in Computational Science and AI   *Concentration: Data Science and Artificial Intelligence*

WORK EXPERIENCE

Prodigy InfoTech Sep 2024 – May 2025   **Remote**

Machine Learning Intern

– Collaborated with Prodigy InfoTech to develop five production-ready ML models in computer vision and NLP domains, improving average model accuracy by 15%.
– Designed end-to-end pipelines—from data ingestion and preprocessing to model training and serving—using Python, scikit-learn, and TensorFlow.
– Implemented MLOps best practices: version control (Git), CI/CD workflows, Docker containerization, and experiment tracking, reducing deployment time by 40%.

Zewail City University Jan 2024 – May 2025   **Zewail City, Egypt**

Junior Teaching Assistant

– Supported 300 undergraduate students across Linear Algebra & Data Acquisition courses by leading problem-solving workshops and providing one-on-one mentorship to improve course outcomes.
– Graded assignments and solution sheets, delivering detailed feedback that contributed to a 20% increase in average class assignment scores.
– **Acknowledgment Letter:** View PDF

NOTABLE GITHUB PROJECTS

- **Intrusion Detection on Kaggle**: Architected and delivered an end-to-end ML pipeline to classify network-traffic into benign, DDoS, DoS, Mirai, Recon, and MITM. Responsibilities included data cleaning; feature engineering (rate-ratio features, payload entropy); class-imbalance handling via SMOTE and ensemble techniques; and hyperparameter tuning with Optuna. Achieved a private score of 91.63% and public score of 91.46%—earning 2nd place out of over 40 teams.

- **ML for Network Intrusion Detection**: Architected a live packet-processing pipeline with Scapy & pandas, engineered temporal and payload-based features, trained autoencoders & isolation forests for anomaly detection, and dockerized Flask APIs for model serving in production-like environments.

- **Data Governance Workflow**: Designed a CI/CD-driven data lifecycle pipeline using DVC & GitHub Actions. Implemented encryption (Fernet, Caesar, Playfair), generated GDPR/CCPA/HIPAA compliance reports, and integrated data-quality validations to ensure auditability and reproducibility.

- **Ambulance Management System**: Engineered a simulation of emergency dispatch operations utilizing custom Stack, Queue, and Priority Queue structures in C++. Implemented real-time patient prioritization (Normal, Special, Emergency), Dijkstra's routing for optimal ambulance assignment, and produced performance metrics including average wait times and utilization metrics.

- **Deep Learning Journal**: Curated a professional journal of deep learning experiments in Jupyter notebooks, documenting CNN and Transformer implementations in PyTorch Lightning & TF-Keras. Maintained reproducible training pipelines with Weights & Biases, and provided narrative insights to facilitate knowledge transfer and collaborative research.

TECHNICAL SKILLS

- **Languages & Databases:** Python, SQL, R, NoSQL, C++, Java, JavaScript

- **Frameworks & Tools:** scikit-learn, TensorFlow, Keras, PyTorch, MLflow, Airflow

- **DevOps & Infra:** Docker, Kubernetes, Terraform, Git, GitHub Actions, DVC, Jenkins