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**
Machine Learning Intern *Remote*

- Collaborated with Prodigy InfoTech to develop 5 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**
Junior Teaching Assistant *Zewail City, Egypt*

* Led problem-solving workshops for 300+ students, boosting average assignment scores by 20%.
* Graded coursework and provided one-on-one mentoring to improve learning outcomes.
* **Acknowledgment Letter:** View PDF

Notable GitHub Projects

- **Intrusion Detection on Kaggle**: Led an end-to-end machine-learning solution for classifying network traffic into benign, DDoS, DoS, Mirai, Recon, and MITM categories. Executed data cleaning, feature engineering (rate ratio, payload entropy), class imbalance mitigation (SMOTE, ensemble strategies), hyperparameter optimization with Optuna, and delivered a final private score of 0.9163 and public score of 0.9146 on Kaggle.
- **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, C, Assembly
- **Frameworks & Tools:** scikit-learn, TensorFlow, Keras, PyTorch, MLflow, Weights & Biases, pandas, Airflow, data-lineage
- **DevOps & Infra:** Docker, Kubernetes, Terraform, Git, GitHub Actions, Jenkins, Bash, Linux, REST APIs