Amr Yasser

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Career Summary

MLOps Engineer with over 6 months of hands-on experience designing and operating end-to-end machine-learning pipelines. Skilled in Python-based ML/DL (scikit-learn, TensorFlow, Keras, PyTorch), containerized model deployment (Docker, Kubernetes), CI/CD orchestration, infrastructure-as-code, and experiment-tracking/model-registry workflows. Strong foundation in data engineering fundamentals, feature stores and data lineage, plus monitoring and observability to keep models healthy in production. Passionate about continual learning—eager to advance into AI Engineering and ultimately architect resilient, scalable AI solutions.

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*

Technical Skills

- Languages (Proficient): Python; SQL; R; NoSQL
- Languages (Familiar): C++; Java; JavaScript; C; Assembly
- Containerization & Orchestration: Docker; Kubernetes
- CI/CD & Version Control: Git; GitHub Actions; Jenkins
- Frameworks & Libraries: scikit-learn; TensorFlow; Keras; PyTorch
- Infrastructure-as-Code: Terraform
- Experiment Tracking: MLflow; Weights & Biases
- Data Engineering: pandas; Airflow; data-lineage concepts
- Other: Linux; Bash scripting; REST APIs

Soft Skills

- Effective communication and presentation
- Team leadership and mentorship
- Problem-solving and analytical thinking
- Adaptability and continuous learning
- Time management and prioritization
- Collaboration in remote and cross-functional teams
- Attention to detail and quality assurance
- Creative brainstorming and innovation mindset

Internships

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%.

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.

Experience

Zewail City University   **Jan 2024 – Present**
Junior Teaching Assistant   *Zewail City, Egypt*
- Supported 300 undergraduate students across Linear Algebra & Data Acquisition courses, leading problem-solving workshops and one-on-one mentorship to improve course outcomes.
- Graded assignments, solved sheets and provided detailed feedback, contributing to a 20% increase in average class assignment scores.

Academic Projects   **2023 – Present**
Team Lead & ML Project Contributor   *Zewail City, Egypt*
- Led a team on over eight data-science and machine-learning projects as part of coursework and research.
- Architected full ML pipelines: data collection, feature engineering, model selection, evaluation, and deployment.
- Collaborated using PyTorch, TensorFlow, pandas, and version-controlled repositories to ensure reproducibility and code quality.