Saeed Neamtallah

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Summary

Machine Learning Engineer with hands-on experience training deep learning models, building end-to-end training pipelines, and shipping ML/RAG applications. Comfortable across data preparation, modeling, evaluation, and deployment with Python, PyTorch, FastAPI, Docker, and PostgreSQL/pgvector. Completed intensive, project-based internships delivering real-world models and production-ready code. Seeking to contribute to teams building reliable, scalable ML products.

Projects

Mini RAG Pipeline *FastAPI, Docker, PostgreSQL + pgvector, OpenAI/HF, Ollama*

- Built a production-ready RAG system: document preprocessing and chunking, embeddings generation, **pgvector** storage, retrieval, and generation endpoints with **FastAPI**.
- Containerized API and database with **Docker** for reproducible local/remote deployments; provided clear configuration and endpoint documentation.
- Added prompt/response tracing and evaluation datasets to compare embedding models and retrieval quality.

Micrograd (from scratch) *NumPy, Autograd/Backprop, PyTorch-style API*

- Implemented a mini deep-learning framework with computational graph construction, **automatic differentiation**, and **backpropagation**.
- Trained simple MLPs via gradient descent; deepened understanding of optimization, initialization, and numerical stability.

Technologies

Languages/Frameworks: Python, PyTorch, NumPy, Pandas, scikit-learn
ML/DL: CNNs, RNNs, Transfer Learning, Feature Engineering, Hyperparameter Tuning, Model Evaluation/Validation
Platforms/Tools: FastAPI, REST APIs, Docker, Docker Compose, PostgreSQL, pgvector, RAG, Vector Databases, OpenAI/Hugging Face, Ollama, Azure Machine Learning, Git, Linux

Experience

Machine Learning Engineer Intern – Digital Egypt Pioneers Initiative (DEPI) Apr 2024 – Oct 2024

- Built and trained deep learning models using **PyTorch**, including CNNs for image classification and RNNs for sequential data processing tasks.
- Developed end-to-end training pipelines with data preprocessing, feature engineering, model training, and evaluation workflows.
- Implemented transfer learning techniques with pre-trained models and fine-tuned architectures for domain-specific tasks.

Machine Learning Engineer Intern – Microsoft Student Club (EELU) May 2024 – Sep 2024

- Trained deep learning models using **PyTorch** for scalable experiments with CNN and RNN architectures for classification tasks.
- Applied data augmentation techniques and hyperparameter tuning; developed modular code with Git-based version control workflows.

Education

B.Sc. in Computer Science & IT **Egyptian E-Learning University (EELU)** Aug 2021 – Oct 2026
Expected Graduation: 2026

Certifications

Digital Egypt Pioneers Initiative (DEPI) – Machine Learning Engineering Program (2024)