BASSEM YASSER TAHA

AI Engineer • NLP Specialist • Machine Learning Engineer

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PROFESSIONAL SUMMARY

Experienced AI Engineer specializing in Natural Language Processing with a strong foundation in transformer architectures and custom language model implementations. Skilled in developing end-to-end NLP systems from scratch, optimizing model performance through fine-tuning techniques, and building production-ready solutions. Passionate about creating efficient, privacy-focused AI applications that solve real-world language processing challenges.

TECHNICAL SKILLS

NLP Techniques: Transformers, BERT, Attention Mechanisms, RAG, Text Classification, Sentiment Analysis, Text Generation, Summarization, Translation

ML/DL Frameworks: PyTorch, TensorFlow, Keras, Hugging Face Transformers

Programming: Python, C++

Libraries & Tools: LangChain, FastAPI, scikit-learn, NumPy, Pandas, Vector Databases, Docker, Jupyter

ML Concepts: Neural Networks, Parameter-Efficient Fine-Tuning (LoRA), Transfer Learning

PROJECTS

Natural Language Processing

Custom Transformer Implementation

- Built transformer models from scratch for text summarization, generation, and translation tasks
- Implemented attention mechanisms and encoder-decoder architecture for optimal performance

BERT Fine-tuning for Sentiment Analysis

- Applied Low-Rank Adaptation (LoRA) technique for efficient parameter adaptation of BERT models
- Achieved 85% accuracy on sentiment classification benchmarks with reduced computational requirements

Document QA System with Local LLM

- Developed a full-stack document question-answering system using Python, FastAPI, and local language models
- Implemented vector embedding search with both in-memory and ChromaDB persistence options
- Created efficient document processing pipeline with customizable chunking
- Built with offline-first architecture for enhanced privacy and reduced API costs

Computer Vision

Image Classification Models

- Built and optimized image classification models using Torchvision
- Applied transfer learning techniques to adapt pre-trained models to specific domains

EDUCATION

Bachelor's Degree in Artificial Intelligence

Cairo University | Cairo, Giza

Graduation Date: 2023

CERTIFICATIONS

LangChain Chat with Your Data - [Verify]

- Created chatbots with LangChain to interface with private data and documents

Natural Language Processing with Attention Models - [Verify]

- Specialized in transformers, attention mechanisms, and NLP applications

Deep Learning Specialization (2024)

- Neural Networks and Deep Learning – [Verify]
- Convolutional Neural Networks – [Verify]
- Structuring Machine Learning Projects – [Verify]
- Improving Deep Neural Networks – [Verify]