

Muhannad Amin Mareai

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SUMMARY

Emerging AI and machine learning enthusiast with a solid academic background in computer engineering and growing hands-on experience in NLP and applied AI projects. Contributed to sentiment analysis and legal AI systems during internships and training programs, gaining practical exposure to model development, retrieval pipelines, and deployment tools. Hands-on experience with personal projects deployed on cloud platforms such as AWS, and cloud-based AI processing platforms including Google Cloud, RunPod, and Simple Pod AI. Eager to apply newly acquired skills in real-world environments, with a strong interest in building responsible and impactful AI solutions.

SKILLS

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| • Data Preprocessing | • Model Deployment (MLOps) | • LangChain |
| • Prompt Engineering | • Large Language Models (LLMs) | • Generative AI |
| • Python Programming | • Natural Language Processing (NLP) | • Deep Learning |
| • Transformer Architectures | • Retrieval-Augmented Generation (RAG) | • Vector Databases |
| • Hugging Face Transformers | • Experiment Tracking & Model Evaluation | • Machine Learning |

PROFESSIONAL EXPERIENCE

Assistant – AI/NLP Projects May 2025 – Present
Soutif (Startup)

- Assist in curating and labeling tweet datasets to enhance sentiment analysis model training for social media behavior.
- Contribute to fine-tuning transformer models (such as BERT variants) for detecting sentiment in multilingual and noisy text data.
- Research and evaluate model deployment platforms, recommend options optimized for latency, scalability, and cost-efficiency.
- Support performance tracking and evaluation using precision-recall metrics to guide model improvement cycles.
- Collaborate with engineering teams and founders to ensure AI prototypes align with product development goals in an agile startup setting.

AI Trainee – Legal RAG Systems Dec 2024 – Mar 2025
Hudhud AI

- Built a retrieval-based AI system to answer legal questions, enabling citizens to better understand and navigate national regulations.
- Organized and indexed legal texts to support semantic search using vector embeddings and similarity-based algorithms.
- Developed a retriever pipeline linking user questions to precise legal sources within official government law databases.
- Designed and refined prompts to maintain legal accuracy and contextual integrity in AI-generated responses.
- Worked with AI specialists to improve system transparency, boosting explainability and public trust in a government-focused NLP solution.
- Designed and executed a series of training experiments across diverse models to assess and enhance overall performance
- Achieved over 95% retriever accuracy by implementing a single, optimized model (E5)

PROFESSIONAL DEVELOPMENT

- IBM Data Science Professional Certificate
- Complete MLOps Bootcamp - 10+ End-to-End ML Projects

EDUCATION

Bachelor’s Degree in Computer Engineering and Information Systems, Computer Engineering Department | Sakarya University 2025

LANGUAGE

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| • Arabic: Native | • English: Professional Working Proficiency | • Turkish: Good |
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