MOHAMMED BASHIR

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📍 Istanbul, Turkey

ABOUT

Experienced AI and Machine Learning engineer with 2 year of experience and a strong foundation in data science and web development.

EXPERIENCE

Machine Learning Engineer   *July 2024 – Present*
NewMind AI (Part Time)

- Developed and optimized NLP models and LLMs for the legal sector, focusing on testing, deploying open-source LLMs, and enhancing RAG systems.
- Worked on large-scale projects to prepare Turkish legal texts for AI applications, utilizing OCR, sentence classification, and smart text segmentation.

AI Engineer and Web Developer (Contract)   *July 2024 – October 2024*
InfoSec, Saudi Arabia (Remote)

- Built two AI-driven web applications using React.js and Python FastAPI, from concept to deployment.
- Applied AI techniques for voice enhancement, speech-to-text, speaker diarization, speaker recognition and verification, and LLM-based text summarization, sentiment analysis, and keyword extraction.
- Worked closely with leadership and customer companies to align technical solutions with business needs.

AI Researcher   *June 2023 – July 2024*
Artificial intelligence Based Optimization Studies Staff (Research Group) (Part Time)

- Developed a retrieval-augmented generation system for an LLM-based AI chatbot using GPT-3.5 Turbo and LangChain for the university's information system, resulting in a thesis and academic paper.
- Researched ergonomic risk analysis using 3D pose detection and multiple AI models (2D pose estimation, pose classification, object detection, depth estimation), with a paper in progress.

Manufacturing Intern   *January 2023 – February 2023*
Yildiz Teknopark Prototype Workshop

- Conducted analysis on the company as a whole, including manufacturing operations, manufacturing machines, workers, processes, plant layout, company's targeted market, company's weaknesses and strengths.
- Manufactured a workpiece, including determining technical details, drawing technical drawing of the workpiece, calculating time required for each manufacturing step, and inspecting the quality of the manufactured workpiece.

EDUCATION

University, Industrial Engineering | Yildiz Technical University   *2021 – 2025*
- GPA: 3.67
- Class Rank: 1st – 3rd
- Completed all courses 1 year earlier.

PROJECTS

Real-Time AI Support System for Call Centers

- Developed an AI-driven real-time support system to assist call center employees during customer interactions. The AI agent provided real-time guidance, suggestions, and solutions based on customer queries, enhancing service quality and operational efficiency. Integrated advanced LLM and NLP to analyze conversations in real-time, ensuring prompt and accurate assistance for customer support representatives. Stack used is React.js, PostrgreSQL, vector database, and FastApi.

Development of AI-Powered Audio Transcription and Analysis Platform

- Designed and implemented an advanced audio transcription and analysis application using React.js and fastapi. The web app utilized state-of-the-art speech-to-text technology, speaker diarization, NLP, and large language model (LLM)–based analysis to transcribe, analyze, and manage thousands of speech audio files. Stack used is React.js, PostrgreSQL, vector database, and FastApi.

Ergonomic Risk Analysis Using AI-Driven 3D Pose Detection

- Conducted a research project focused on automating ergonomic risk analysis for workers using advanced AI models. Leveraged cutting-edge 3D pose detection techniques to enhance accuracy and efficiency in evaluating workplace ergonomics. The project automated traditional ergonomic risk analysis tools, enabling scalable and data-driven workplace safety assessments.

Click **Here** to see other portfolio projects on my website.

PUBLICATIONS

1] Optimizing Access and Navigation in Educational Content Using Retrieval-Augmented Generation with Large Language Models
International Conference on Optimization and Data Science in Industrial Engineering (ODSIE 2024)

- Lead author and presenter of a research paper based on my thesis work.
- Applied Proposed a novel retrieval-augmented generation system to improve interaction with educational content via LLM-based AI chatbots.

SKILLS

Artificial Intelligence & Machine Learning	Traditional ML Algorithms, Computer Vision, NLP, Large Language Models
Data Analytics & Business Intelligence	Tableau, Excel, Python for Analytics, Statistical Methods
Web Development	Python, JavaScript, React.js, Node.js, SQL & NoSQL, Fastapi, Firebase
Cloud and DevOps	AWS, Web Apps Deployment, Kafka, Docker, Shell Scripting, gRCP

LANGUAGES

English	**C1** (Full Proficiency), TOEFL: 106/120
Turkish	**C1** (Full Proficiency), YEE Exam: 89%
Arabic	**Native**

CERTIFICATES & COURSES

Coursera	Machine Learning Specialization
Coursera	Deep Learning Specialization
Coursera	Natural Language Processing Specialization
DeepLearning.AI	Generative AI with Large Language Models
Udemy	Complete Python Pro Bootcamp
Udemy	Complete SQL Bootcamp
Udemy	Mobile Apps Development Bootcamp
Genc MUSIAD	Applied Foreign Trade Training

SOCIAL & VOLUNTEER

Country Representative | International Students Association, Turkey
- Representative of Country in UDEF (Federation of international Students Association). The representative orchestrate, organizes activities, and helps solving the issues and interests of the represented country's students.