ESRA AKILLI

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CAREER OBJECTIVE

AI-focused engineer with a strong dual background in Mathematics and Industrial Engineering, currently contributing to AI and ML projects at TOM Bank's Generative AI Team. Passionate about applying LLMs, machine learning models, and NLP techniques to build intelligent systems that solve real-world problems. Eager to continue shaping innovative AI solutions at the intersection of data science, software engineering, and business value.

EDUCATION

Istanbul Technical University, Istanbul, Turkey
Bachelor of Industrial Engineering   2021 - 2025
GPA: 3.12/4.00, 2022-2023 Honor List
Graduation Project: AI-Powered Research Summarizer
Bachelor of Mathematics Engineering   2019 - 2024
GPA: 3.16/4.00, 2020-2021 High Honor List
Graduation Project: Full-stack web application for note-taking and editing

Istanbul Atatürk Science Hıgh School, Istanbul, Turkey
GPA: 3.8/4, Certificate of Honor

EXPERIENCE

TOM Bank, Istanbul, Turkey   Aug 2024 - Present
Management Trainee – Generative AI Team

- Designing an ML-powered estimation system for Jira story points using models like XGBoost and Random Forest, evaluated with multiple scoring techniques.
- Enriching development tasks using LLMs for semantic understanding and context-aware task generation.
- Delivering internal technical presentations on Transformers Architecture, Spring AI, and LLM integration strategies.
- Published AI/ML-focused articles on the company's official Medium account, translating complex concepts into accessible content for both technical and business readers.
- Optimized LLM-driven workflows by applying prompt engineering methods and leveraging LangChain and Hugging Face integrations.
- Developed a text-to-SQL prototype using Spring AI, enabling natural language querying for non-technical users.
- Created a demo project analyzing software design principles in AI applications, with a focus on clean architecture and maintainability.
- Contributed to the modernization of digital banking systems by:
    - Managed backend services with Spring Boot, designed RESTful APIs, and ensured clean code standards.
    - Monitored microservices using Rancher & Kibana; improved test coverage with SonarQube and Postman collections.
    - Oversaw CI/CD workflows via Jenkins, streamlining model deployment and release management.

MACELLAN, Istanbul, Turkey   Aug 2023 - Aug 2024
Backend Developer Intern

- Developed and tested robust Laravel APIs, achieving high code quality and test coverage.
- Created a financial forecasting project and contributed to dynamic user interfaces with Vue.js.
- Participated in Agile sprints, product demos, and stakeholder reviews.

TUSAŞ-Turkish Aerospace (TAI), Ankara, Turkey   July 2022 - Aug 2022
Engineer Intern - Production Planning and Control

EXTRACURRICULAR ACTIVITIES

UP School & Akbank: AI First Developer Program Online, Turkey   June 2024 - September 2024

- Gained practical experience in Generative AI, AI-Driven Development, and AI Ethics
- Built projects such as a Cat Facts App, Movie Recommendation System, and a Video Transcriber.

Mathematics and Mathematics Engineering Community   May 2020 - August 2023

- Established a student-led platform to promote awareness of applied and theoretical mathematics.
- Led content strategy and publication of academic/technical material across platforms.
- Produced educational YouTube videos (Bu Ne Bilimsizliktir?), handling scripts and animation.

Academic Activities

- Sector Events at ITU Mathematics Engineering   April 2021 - June 2021
- Student Coach and Private Lesson Teacher   January 2020 - June 2021
- ITU Fine Arts Club: Club and Social Media Team Member
- ITU EMK Club: Development Committee Member

ADDITIONAL SKILLS & INTERESTS

Technical Skills	**Programming Languages:** Python, Java (Spring Boot), SQL, PHP (Laravel), Vue.js, HTML/CSS, MATLAB **AI & Data Technologies:** Generative AI, NLP, LLMs (GPT-4, Claude, Gemini), RAG Systems, Statistical Data Analysis, Data Processing, Hugging Face Models(LLaMA, Mistral, OpenAI), Ollama, OpenAI Whisper, Scikit-learn, TensorFlow, SQLite **Backend & DevOps:** RESTful API Design, Microservices Architecture, CI/CD, Jenkins, Git, Bitbucket, Swagger, Postman, Streamlit **Monitoring & Engineering Tools:** SonarQube, Rancher, Kibana, MS Office, AutoCAD, GAMS, OpenSolver **Design & Content Creation:** Adobe Photoshop, Illustrator, After Effects, DaVinci Resolve, Canva
Languages	Turkish (Native), English (Professional Working)
Interests	Drawing & animation, tech blogging, walking, reformer pilates, cooking, swing jazz.
References	Available upon request