

# ESRA AKILLI

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## CAREER OBJECTIVE

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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 mobile games, data science, software engineering, and business value.

## EDUCATION

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**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 High School**, Istanbul, Turkey

GPA: 3.8/4, Certificate of Honor

## EXPERIENCE

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**TOM Bank**, Istanbul, Turkey

Aug 2024 - Present

**Management Trainee – Generative AI Team**

- Designing an ML-powered estimation system for Jira story points, evaluated with multiple scoring techniques, while implementing event/log streaming and structured logging with structlog.
- 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 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, 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**

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**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**

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<b>Technical Skills</b>	<b>Programming Languages:</b> Python, Java (Spring Boot), SQL, PHP (Laravel), Vue.js, HTML/CSS, MATLAB <b>AI &amp; Data Technologies:</b> Generative AI, NLP, LLMs, RAG, Statistical Data Analysis, Data Processing, Scikit-learn, Hugging Face Hub & Transformers, Ollama <b>Software &amp; Data Infrastructure:</b> RESTful API Design, Microservices, CI/CD, Jenkins, Git, Bitbucket, Swagger, Postman, SonarQube, Rancher, Elasticsearch, Kibana, SQLite <b>Optimization &amp; Productivity Tools:</b> GAMS, OpenSolver, MS Office, AutoCAD <b>Design &amp; Content Creation:</b> Adobe Photoshop, Illustrator, After Effects, DaVinci Resolve, Canva
<b>Languages</b>	Turkish (Native), English (Professional Working)
<b>Interests</b>	Mobile games, drawing & animation, tech blogging, walking, reformer pilates, cooking, swing jazz.
<b>References</b>	Available upon request