Ilayda Sungur

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Education

Middle East Technical University (METU) – B.S. in Computer Engineering *Ankara, Turkey — July 2026*
Relevant Coursework: Machine Learning, Deep Learning, Natural Language Processing

Technical Skills

Languages: Python, C++, C, Java, JavaScript/TypeScript, SQL
Frameworks: FastAPI, Node.js, Angular, Next.js, Django REST Framework, Spring Boot
ML & Robotics: PyTorch, TensorFlow, scikit-learn, vLLM, LLMs/VLMs, YOLOv8, OpenVINO, LSTM/GRU, UR5e
Cloud & Tools: PostgreSQL, AWS, Azure, Firebase, Docker, Git, Linux

Experience

Undergraduate Researcher – Robotics & Foundation Models *2025 – Present*
DTX Lab, Middle East Technical University *Ankara, Turkey*

- Co-developed **RoboPick**, a voice-controlled UR5e arm: a local LLM plans actions; a validator blocks unsafe ones.
- Built perception with **no task-specific training data**: a VLM finds spoken objects and guides segmentation.
- Served Whisper, Qwen3, and Qwen2.5-VL locally with vLLM; wrote the Python runtime and hardware-mocked tests.
- Validated pick-and-place, swap, and stacking on the real arm; now researching VLAs as manipulation policies.

Full Stack Developer (Intern → Part-time) *June 2025 – Present*
GÜRİŞ Technology *Ankara, Turkey*
Solar Panel Defect Inspection *YOLOv8, FastAPI, OpenVINO, GIS*

- Built a pipeline that turns drone footage of solar plants into GIS defect maps and PDF reports.
- Trained YOLOv8 on hand-labeled thermal images to detect panels and hotspots; **geotagged each defect**.
- Cut inference cost by only scanning frames that contain panels and deploying to NPUs with OpenVINO.
- Compared defects across flights to separate real faults from imaging artifacts.

Wind Turbine Inspection Planning *Angular, Node.js, PostgreSQL, Azure*

- Built a maintenance route-planning app for field engineers, deployed on **Azure**.

Wind Power Forecasting *LSTM/GRU, Kalman Filter, GFS/ERA5*

- Working on production forecasting models for 9 wind farms (∼500 MW).

Full Stack Engineer Intern *July 2024 – September 2024*
Algofact *Ankara, Turkey*

- Built Next.js web apps on Django REST APIs, hosted on AWS and Firebase.
- Wrote web scrapers (Selenium, BeautifulSoup) to automate automotive data collection.

Backend Developer Intern *July 2024 – September 2024*
Sebit *Ankara, Turkey*

- Built a Spring Boot **exam-proctoring app** that tracks students' eye movements during online exams.
- Designed its REST APIs and PostgreSQL database and optimized queries.

Projects

SkinGlow – AI Skincare Assistant (2025) *Angular, Node.js, OCR, Embeddings*

- Co-built a web app that scans ingredient labels to flag conflicts and recommends similar products; won **3rd place** at the Pupilica AI Hackathon.

Publications & Awards

RoboPick: A Voice-Controlled, LLM-Orchestrated Pick-and-Place Robotic System – UBMK 2026, Istanbul
"Most Innovative Project" Jury Award, METU CENG Demo Day (RoboPick, 2026)
PhysTech (2nd Degree Diploma) & Lomonosov (Medalist) Math Olympiads (2021)

Languages

Languages: Russian (Native), English (Full Professional), Turkish (Limited Professional)