

Experience

CodLab AI

Karabuk

Artificial Intelligence Engineer

02/2025- 07/2026

- Designed and developed an end-to-end academic author disambiguation (entity resolution) pipeline for bibliometric data, architected to scale to 85M+ articles (~500M author mentions) on a single machine.
- Built a two-stage Python ETL system using PostgreSQL 15 + pgvector (384-dim embeddings), Elasticsearch (fuzzy name search with Turkish analyzer), SentenceTransformers and RapidFuzz; reached ~92% accuracy on a 200-case ground-truth benchmark with controlled cluster quality.
- Cut full-pipeline runtime on a 2.5M-record dataset by ~50%, largest single gain came from replacing an $O(N^2)$ read pattern with $O(N)$ keyset pagination.
- Engineered a MinHash LSH "block-then-cluster" candidate layer that removed the Elasticsearch bottleneck, and an out-of-core memmap design keeping 85M-scale processing within a fixed memory budget.
- Implemented a multi-signal matching hierarchy (email, ORCID, ResearcherID, affiliation, co-authorship graph, semantic embedding) with anti-snowball safeguards to prevent false mega-clusters.

Mitsubishi Electric Innovation Center

Silicon Valley, California, U.S

Artificial Intelligence Intern

09/2024- 11/2024

- Optimized YOLO-based deep learning models by reducing inference time by 28% and increasing detection accuracy by 18% through leveraging advanced image processing techniques for various object detection problems.
- Implemented and improved different YOLO models in projects focused on object detection and image processing, resulting in a 22% increase in real-time performance.

DIATICS

Pendik, Istanbul

Artificial Intelligence Intern

05/2024- 09/2024

- Utilized YOLOv8 to develop advanced fire detection models, reducing false alarm rates by 30% and enhancing safety response times by 45%.
- Created plate recognition systems using YOLOv8, improving accuracy from 92% to 97% and increasing vehicle identification speed by 40% in various lighting conditions.
- Designed pose estimation models with YOLOv8, achieving 89% precision in human posture analysis and reducing processing time by 35%.
- Connected these models with FastAPI application to a backend PostgreSQL database, decreasing data retrieval time by 60% and improving overall system performance by 50%.

ArVis Technology

Pendik, Istanbul

DeepTech/AI Research & Development Intern

07/2023- 09/2023

- Developed a game using Unity, GPT, Azure techs during my internship at Arvis.
- Integrated artificial intelligence for NPCs, enabling engaging voice interactions with characters and non-scripted storylines.
- Enhanced the project by implementing Azure API for text-to-speech and speech-to-text functionalities, improving speech recognition accuracy from 88% to 94%.

Deutsche Telekom

Sisli, Istanbul

Intern

07/2023- 08/2023

- Developed a mail automation project during my internship at Deutsche Telekom using Python.
- Automated and streamlined email processes, reducing manual workload by 75% and optimizing overall efficiency.
- Implemented Python scripts to handle various email tasks, demonstrating practical programming skills.
- Acquired hands-on experience in Python programming and automation tools during the internship.

Education

KARABUK UNIVERSITY

2025-Present

Master's Degree, Computer Engineering. In progress (1st year completed).

Thesis focus: large-scale academic author disambiguation

KARABUK UNIVERSITY

2020-2025

Bachelor's Degree, Computer Engineering. Graduated. GPA:3.31

Developed a solid foundation in computer science and software development (Python, C, SQL), with a growing specialization in machine learning, deep learning, and computer vision that now drives my work in applied AI.

Leadership and Activities

Google Developer Student Clubs Karabuk

Co-Lead

10/2023- 06/2025

- Conducted an AI workshop for beginners in the field of Computer Science.
- Organized technical field trips, conducted educational sessions on essential skills, including GitHub utilization and Android programming.
- Spearheaded the coordination of the DevFest conference attracting 500+ attendees, managing while overseeing networking events with 150+ participants per meeting.

Publications

Tüylüoğlu, B. E., & Türker, İ. (2025). Author Name Ambiguity in Turkish Scientific Publications: A Bibliometric Verification Approach. 8th International Trakya Scientific Research Congress.

Skills & Interests

Technical: Python, SQL, C, PyTorch, Machine Learning, Deep Learning, NLP, Computer Vision, Image Processing, Embeddings, Vector Search, LangChain, LangGraph, RAG, PostgreSQL, pgvector, Elasticsearch, Docker, FastAPI, Git

Language: English: Proficient, Turkish: Native

Interests: Artificial Intelligence, Chess, Basketball, Generative AI