

# Berke Deniz Bozyigit AI/ML Engineer

✉ berkebzt@gmail.com ☎ +447552837419 📍 London 🌐 <https://github.com/berkebzt>  
🌐 [linkedin.com/in/berkebozyigit](https://www.linkedin.com/in/berkebozyigit)

## Summary

AI Research Engineer with a focus on machine learning theory, model optimization, and neural architecture design. Experienced in formulating and conducting end-to-end research from hypothesis generation to experimental validation and prototype deployment. Currently developing novel nonlinear aggregation functions for artificial neurons with demonstrated performance gains on CIFAR-10 benchmarks. Skilled in statistical learning, transformer fine-tuning, and scalable ML systems, with a growing interest in AI for financial decision-making and trustworthy large-scale systems.

## Professional Experience

- Data Scientist, Akbank** 10/2022 – 04/2024  
Istanbul, Turkey
- Applied AI Research in LLMs: Fine-tuned a 7B-parameter *Llama-2* using parameter-efficient methods (LoRA, QLoRA), achieving 20% latency reduction in enterprise HR screening.
  - Model Evaluation & Experimentation: Conducted comparative studies on transformer optimization strategies, benchmarking inference latency and throughput.
  - Computer Vision Research: Designed OCR and multi-dataset validation pipelines; improved financial document parsing accuracy by 18%.
  - Generative AI Systems: Integrated *Stable Diffusion* models into production systems, implementing parallel inference achieving sub-3s response time.
- Data Science & ML Intern, HAVELSAN, EHSIM** 07/2021 – 11/2021  
Ankara, Turkey
- Signal Processing Research: Developed scalable RF signal analysis frameworks using Python; increased processing throughput by 30%.
  - Applied classification models to detect and characterize signal patterns, supporting real-time defense analytics.
- Data Engineering Intern, Xinerji Software** 04/2021 – 07/2021  
Istanbul, Turkey
- Designed SQL-based ETL pipelines for preprocessing and feature engineering, ensuring data integrity for ML model training.

## Education

- M.Sc., Artificial Intelligence, University of York** 09/2024 – 09/2025  
York, United Kingdom
- Research Focus:** Neural Architecture Innovation
- Dissertation:** "A New Type of Artificial Neuron: Exploring Nonlinear Aggregation Functions" – designed novel neuron architectures (F-Mean, Gaussian, Hybrid) achieving improved model robustness on CIFAR-10 benchmarks.
- B.Sc., Computer Science and Engineering, Sabanci University** 09/2017 – 09/2022  
Istanbul, Turkey
- Capstone Project:** Spatio-Temporal Data Analytics Platform
- Developed full-stack platform using Python, MongoDB, React for climate measurements, demographic data, and sentiment analysis integration.

## Skills

### ML/AI

PyTorch, TensorFlow, Scikit-learn, XGBoost, LightGBM, LLM fine-tuning, Computer Vision, OCR, Optimization, Statistical Modelling

### Programming

Python, C++, SQL

### MLOps

MLflow, Airflow, Docker, Kubernetes, Git, CI/CD, REST APIs

### Cloud & Data

AWS (S3, EC2, Lambda), PostgreSQL, SQL Server, Linux

## Languages

English: (C1) | German: (A2) | Turkish: (Native)