

Eren AKBIYIK



PROFILE

Machine learning engineer, AI researcher, entrepreneur, ex-IBM. Research in multimodal AI with image/video, human intent modeling, time series forecasting, and graph neural networks.

5+ years in software & AI.

2+ years in leadership.

7 first-author papers. 1 patent.

CONTACT DETAILS

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OPEN SOURCE PROJECTS

TORCHCACHE

github.com/meakbiyik/torchcache
PyTorch caching decorator for significantly faster training with frozen vision and LLM modules.

GRAPHTESTER

github.com/meakbiyik/graphtester
Graph isomorphism testing with 1-WL for theoretical comparison of graph neural networks (GNNs).

SKILLS

MACHINE LEARNING:

PyTorch, TensorFlow, ONNX, scikit-learn, numpy, pandas

COMPUTER VISION:

OpenCV, scikit-image, GANs, LVMs

DEVOPS/MLOPS:

Docker, Kubernetes, Terraform, CI/CD, Slurm, Ray

BACKEND:

Golang, C++, Java, REST, gRPC, WebRTC, PostgreSQL, AWS, Azure

EXPERIENCE

SENIOR ML ENGINEER at TripleLift (Switzerland)

2024.09-present

◇ Large-scale ad audience prediction using AWS (Bedrock, EC2) and Spark, at a US-based AdTech firm processing trillions of audience interactions daily. Created an LLM-based semantic HTML processor for 30% better ad relevance.

HEAD OF AI at Showzone AG (Switzerland)

2022.01-2024.08

◇ Creating MLOps pipelines for real-time transcription, achieving 90% cost reduction compared to cloud offerings with C++. Deploying Kubernetes infrastructure on AWS, using PostgreSQL, AWS S3, with CI/CD. Multimodal text processing with Azure OpenAI, AWS SageMaker. Funding negotiations.

FOUNDER at Showzone AG (Switzerland)

2021.01-2022.01

◇ Implementing the full-stack prototype with Golang & React on AWS. Pilot phase organization with stakeholders, customer relations, design thinking.

RESEARCH ASSISTANT at ETH Zürich (Switzerland)

2020.10-2023.03

◇ Graph-based machine learning and GNNs with PyTorch. Social network data ingestion and analysis. Open-source Python package development in Python, Typescript, R. Technical workshops for students on CI/CD and HPC clusters.

SOFTWARE ENGINEER at IBM (Germany)

2019.08-2020.09

◇ ML-based workload characterization and analysis with XGBoost and PyTorch. Patent in explainable AI for resource contention detection. SQL wrappers in Python. Creating efficient, vectorized data ingestion pipelines, visualizations.

SOFTWARE INTERN at IBM (Germany)

2018.06-2018.09

◇ Dashboard creation for log visualization, SQL query analysis.

EDUCATION

ETH ZÜRICH (SWITZERLAND)

Master in Data Science

2020-2023

◇ **CGPA:** 5.7/6.0. **Thesis grade:** 6.0. Multimodal computer vision and human intent modeling. Created **Routeformer** for multimodal trajectory prediction.

BILKENT UNIVERSITY (TURKEY)

Bachelor of Science in Computer Science

2015-2019

◇ **CGPA:** 3.9/4.0, summa cum laude, comprehensive scholarship. Computer vision, image processing, deep learning.

PATENTS

Contention Detection and Cause Determination (United States)

Identify the performance anomalies in computing systems with AI.

TOP PUBLICATIONS

Semantic Outlier Removal with Embedding Models and LLMs

ACL 2025 - Industry Track

Leveraging Driver Field-of-View for Multimodal Trajectory Prediction

ICLR 2025

Graphtester: Exploring Theoretical Boundaries of GNNs

ICML 2023 - Data-centric Machine Learning Research (DMLR) workshop

Ask 'Who', Not 'What': Bitcoin Volatility Forecasting with Twitter Data

WSDM 2023

ACCOMPLISHMENTS

35TH AMONG 1.8 MILLION STUDENTS, National University Exam, Turkey **2015**

1ST AMONG 1 MILLION STUDENTS, National High School Exam, Turkey **2010**