

## Eren AKBIYIK



### PROFILE

Ex-IBM engineer, AI researcher, entrepreneur. Proven expertise in machine learning and backend. Published author and patent holder in computer vision and explainable ML.

5+ years in software & AI.

2+ years in leadership.

6 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 billions of audience interactions daily. Developed a GenAI-based URL analysis pipeline for 30% better ad relevance.

### AI LEAD 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

◇ Social network data ingestion and analysis. Graph-based machine learning with PyTorch. 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, human motion prediction, time-series forecasting, multi-agent RL.

### 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

### 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

### Unsupervised Image Registration by Polynomial Warping

CCISP 2019

## ACCOMPLISHMENTS

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

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