

Emre Sahin

ML / MLOps / Backend Engineer

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SKILLS

ML/MLOps/LLMOps Engineer: Creating pipelines on the cloud (Vertex AI, Dataflow, Apache Beam), Distributed Acoustic Sensors, Signal Processing and Time Series Analysis, Anomaly Detection, Training Models (Python, C++), Fine-Tuning (LoRA, Linear Probe), Computer Vision (OpenCV), Unstructured Data Management (DVC, Xvc), Document Analysis with AI (OpenAI, Anthropic, Gemini models, VLLMs, Word Spotting, Deep Learning with PyTorch, TensorFlow, Theano), Face Detection and Recognition (Transfer Learning, VGG models, MLPs), AI in Legal (Party and Metadata Detection, Contract and Clause Categorization), Continuous Training (Airflow, DVC), Experiment Tracking (MLflow), Data Preparation (Scripting, Nushell, CSV, JSON, Tableau), Data Analysis (Polars), Deployment (ONNX, Vertex AI), Resource Management (Docker, Terraform), Cloud APIs (OpenAI, Azure Cognitive Services, Google Vertex AI, AWS Bedrock), OCR and ICR (Tesseract, Azure Document Intelligence), Retrieval Augmented Generation (Embeddings, Vector Stores, Pinecone, Qdrant, pgvector, Chunking).

Backend Engineer: Building Servers (Axum, Ruby on Rails, FastAPI), Consuming and Serving REST APIs (Poem, Django, Flask) and gRPC (Python, Go), Authentication with OAuth, Data Architecture, SQL Databases (PostgreSQL, SQLite), Query Optimization (Denormalization, Analysis), GIS (PostGIS), NoSQL (MongoDB), Key-Value Stores (Redis), Parallelization (Async in Python and Rust, Threading, Multiprocessing, Sidekiq in Ruby), Queues (Pub/Sub, Kafka).

Full Stack Engineer: Front End Development (Vue, Svelte, Dioxus/Rust, TypeScript), Mobile Development (Flutter, Kotlin, Dart).

Technical Writer: Documentation, Markdown, reStructuredText, DocBook, LaTeX.

DevOps Engineer: Git, GitHub, Jujutsu, Docker, Terraform, Cloud (AWS, GCP, Azure), Scripting (Bash, Zsh, Nushell), Neovim, Lua.

Engineering and Research Management: Cross-Functional Collaboration, Mentoring, Career Development, Team Building and Hiring, Code Reviews, System Design, Technology Evaluation and Selection, Roadmapping, Budgeting, Resource Forecasting, Risk Management, Stakeholder Management, Agile Processes, Pair Programming, Cross-Cultural Communication, Auditing.

EXPERIENCE

Senior Machine Learning Engineer — Avenga

Aug 2025 - Present · Remote

Avenga is a company specializing in providing consultancy services to external clients.

- ▲ Worked as ML Lead for Google X Team's Ship Tracking Project with Distributed Acoustic Sensor data.
- ▲ Optimized PostGIS queries using AIS data to accurately and quickly determine ship positions for various downstream analyses.
- ▲ Created signal-processing-based datasets and trained fine-tuned DINOv3 models with them.
- ▲ Created deployment solutions with Cloud Run and Vertex AI.
- ▲ Created Dataflow (Apache Beam) solutions for parallel processing of multi-terabyte datasets.
- ▲ Built an end-to-end solution with DAS data to ingest data from the cloud, process it with various options, and save it to Cloud SQL.
- ▲ Built a standalone labeling tool for DAS and preprocessing workflow with Python Panel/Holoviz and deployed it on GCP.

ML and Software Consultant — Emresult OÜ

Apr 2018 - Present · Remote

This is my personal company, where I build end-to-end ML and MLOps systems for various clients.

- ▲ Built an end-to-end face recognition system working in real time with multiple cameras and servers, using transfer learning on top of VGG-16 and TensorFlow, and synchronizing multiple Python processes with Redis.
- ▲ Built an open-source MLOps tool to automate training and data management for ML systems in Rust and Python, and wrote its documentation.

Senior ML and Backend Engineer — Recital

Feb 2023 - Apr 2025 · Remote

Recital is a startup specializing in contract negotiation and legal technologies with AI.

- ▲ Developed LLM and NLP-oriented ML systems focused on LegalOps.
- ▲ Experimented with LLM (OpenAI, Anthropic, Gemini, Llama, etc.) effectiveness in various legal tasks, such as party detection and clause categorization.
- ▲ Implemented and maintained features in a Ruby on Rails backend server and a Python (Flask, FastAPI) based ML server.
- ▲ Built Retrieval Augmented Generation systems with Pinecone, pgvector, Qdrant, Sentence Transformers, and chunking libraries.

Technical Writer and ML Engineer — Iterative

Feb 2021 - Jun 2022 · Remote

Iterative is an MLOps company behind tools like DVC and CML.

- ▲ Wrote, revised, and refined technical documentation for the DVC project.
- ▲ Built example projects for users in Docker, Katacoda, Python, PyTorch, and TensorFlow to use DVC in various settings.
- ▲ Tested DVC performance in typical ML scenarios.

Head of Research and CEO — Teknokrat A.Ş.

Nov 2013 - Nov 2017 · Bursa, Turkey

Teknokrat was my startup to implement projects in historical handwriting recognition based on my Ph.D. research.

- ▲ Built an Arabic video OCR system for Carnegie Mellon University's Human Rights Center to search for names in YouTube videos, using models from my Ph.D. research on Ottoman handwriting recognition.
- ▲ Received TUBITAK grants for historical Ottoman printed text recognition and translation, and delivered the funded projects.
- ▲ Experimented with deep learning (CNN) and word-spotting based solutions for the problem domain.
- ▲ Built an automated transliteration engine for Ottoman/Turkish translation with rule-based systems.
- ▲ Managed a team of engineers and domain experts.

Performance-Oriented TAM and SaaS Ops Manager — DevFactory/Trilogy

Jan 2011 - Dec 2011 · Remote

DevFactory was a subsidiary of Trilogy for offshore development.

- ▲ Increased the performance of several desktop software products by a few times.
- ▲ Promoted to SaaS Ops Manager; managed around 20 engineers worldwide to maintain 7 SaaS products.

Teaching and Research Assistant — Bilkent University, Dept. of Computer Science

Sep 2003 - Feb 2010 · Ankara, Turkey

Bilkent is the top CS department in Turkey.

- ▲ Served as TA for various introductory courses and, most notably, senior-level Artificial Intelligence and Logic for Computer Science courses.

Freelance Developer

1996 - 1998 · Ankara, Turkey

- ▲ Built the first specialized editor on Windows for notary offices in Turkey, using Delphi 1.

EDUCATION

Ph.D. in Computer Science (Incomplete) — Bilkent University, Dept. of Computer Science 2013 - 2016 · Ankara, Turkey

Researched Ottoman historical handwritten and printed text recognition under Prof. Pınar Duygulu. Published two conference papers on the topic and founded a company to build products around the research.

Ph.D. in Computer Science (Incomplete) — Bilkent University, Dept. of Computer Science 2003 - 2010 · Ankara, Turkey

Researched computational semantics, pragmatics, and analogy-making with AI systems under Prof. Varol Akman. Was a Ph.D. candidate before withdrawing.

B.S. in Computer Engineering — Baskent University, Dept. of Computer Engineering

1998 - 2002 · Ankara, Turkey

Graduated with the highest rank in the department.