Anar Amirli

Saarbruecken, 66111, DE anaramirli@gmail.com +49 176 26876106
anaramirli.com linkedin.com/in/anar-amirli github.com/anaramirli

Education

Universität des Saarlandes *Saarbrücken, Germany*
Master of Science, Computer Science *Oct 2019 – Aug 2025*

- DAAD Full Graduate Scholarship (2019–2022)
- *Relevant coursework:* Machine Learning, Deep Learning, Computer Vision, NLP, Data Science, Statistics
- *Thesis topic:* "Beyond Heatmaps: A Visual Concept-Based Explainable Model via Graph Attention Networks" — Grade: 1.0

Baku Engineering University *Baku, Azerbaijan*
Bachelor of Engineering, Computer Engineering *Sep 2014 – Jun 2019*

- Graduated with Honours
- Ministry of Science & Education Scholarship

Work Experience

Research Assistant & Master's Thesis Student *Saarbrücken, Germany*
DFKI - German Research Center for Artificial Intelligence *Mar 2023 – Aug 2025*
Focus Area: Explainable AI

- Built an **ante-hoc interpretable AI** framework with Graph Neural Networks, enabling detection of suspicious patterns and improving trust in skin cancer detection.
- **Improved skin cancer diagnosis accuracy** by ∼3% over baseline, while providing transparency through unsupervised concept-based explanations of pathological features.
- Delivered full research-to-prototype pipeline, producing **clinician-ready explainability dashboards** and model evaluation tools for validating AI-driven skin cancer diagnoses.

Research Assistant *Saarbrücken, Germany*
DFKI - German Research Center for Artificial Intelligence *Nov 2021 – Sep 2022*
Focus Area: Data Science

- Developed and deployed a **real-time anomaly detection system** (FastAPI, Docker, AWS) for SCHOTT AG manufacturing lines, **boosting anomaly localization accuracy by 13%** with post-hoc methods and reducing defect-related downtime.
- Designed **scalable ML workflows in cloud-ready containers**, integrating detection APIs with dashboards to support rapid operational decisions.
- Conducted **ad-hoc exploratory analysis** of large-scale incident logs and suspicious cases, and **fine-tuned domain-specific LLMs** (BERT, GPT, LLaMA) to automatically summarize reports, significantly reducing manual workload.

Research Assistant (grant-funded) *[remote]*
TESLAB, NTU Singapore *Feb 2021 – May 2022*
Focus Area: Applied AI

- Developed a **multimodal-to-image translation pipeline** using GANs and Diffusion Models, achieving **95–99%** reconstruction accuracy with **99%** reduction in runtime for topology optimisation of 2D/3D structures.
- Supported engineering teams by replacing compute-heavy solvers with lightweight generative samples.

Summer Internship *Ankara, Turkey*
ImageLab, Middle East Technical University *Jun 2018 – Sep 2018*
Focus Area: Machine Learning

- Developed a deep learning model for **ball position estimation** in football, assisting tracking cameras during occlusion.
- Applied **statistical modelling** and ML techniques (logistic regression, decision trees, CNNs) for **sports analytics**.

Selected Publications

Unsupervised multi-sensor anomaly localization with explainable AI Springer, June 2022

Mina Ameli, ***Anar Amirli***, Wolfgang Maaß, Kristian Kersting
10.1007/978-3-031-08333-4_41

Skills

Specialized AI Expertise: Explainable AI, Anomaly & fraud detection, self-/weakly supervised learning, Graph ML (embeddings, networks, GNNs), Computer Vision, Natural Language Processing

Programming & Data: Python, C++, SQL, Spark, Pandas, NumPy

Frameworks & Tools: PyTorch, TensorFlow/Keras, Scikit-learn, MLflow

Cloud & Deployment: AWS (SageMaker, S3, EC2), Docker, Kubernetes (basic), FastAPI, Git, CI/CD

Other: Agile teamwork, stakeholder communication, research-to-prototype translation, technical documentation

Languages: Azerbaijani (native), English (C1), Turkish (C1), German (B1)

Other Experience

Part-time Cook *Saarbrücken, Germany*
Old Murphy's Irish Pub *2023 – 2025*

- Worked part-time to support studies abroad, gaining teamwork and time-management skills in a high-pressure environment.

General Interest

AI ethics and social studies; DJing and vinyl mixing (rare funk & soul); Long-distance cycling.