Anar Amirli

Saarbruecken, Germany

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Education

Universität des Saarlandes *Saarbrücken, Germany*
M.Sc. Computer Science *Oct 2019 – Aug 2025*

- DAAD Full Graduate Scholarship (2019–2022)
- Focus on *Statistics, Machine Learning, AI, and Data Science*
- Thesis: *"Beyond Heatmaps: A Visual Concept-Based Explainable Model via Graph Attention Networks"* — Grade: 1.0

Baku Engineering University *Baku, Azerbaijan*
B.Eng. Computer Engineering *Sep 2014 – Jun 2019*

- Graduated with Honours, awarded the Ministry of Science & Education Scholarship

Selected 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.

Junior Applied Scientist *[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 **91–99%** reconstruction accuracy and enabling near real-time topology optimisation of 2D/3D structures.
- Supported engineering teams by replacing compute-heavy solvers with lightweight generative samples.

Internship *Baku, Azerbaijan*
ATL Tech *Jan 2019 – Jun 2019*
Focus Area: Machine Learning

- Contributed to the development of a **real-time speech recognition system** for the Universal Virtual Simulator Project at the Azerbaijan National Aviation Academy.

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

- 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 Publication

Unsupervised multi-sensor anomaly localization with explainable AI Springer, June 2022
Mina Ameli, **Anar Amirli**, Wolfgang Maaß, Kristian Kersting
DOI: 10.1007/978-3-031-08333-4_41

Skills

AI/ML: Risk & fraud detection, Anomaly detection, Explainable AI, Data Science, ML, Graph ML, CV, NLP
Programming/Data: Python, C++, SQL, Spark, Pandas, NumPy
Frameworks: PyTorch, TensorFlow/Keras, Scikit-learn, MLflow
Cloud/Deployment: AWS (SageMaker, S3, EC2), Docker, Kubernetes (basic), FastAPI, Git, CI/CD
Languages: Azerbaijani (native), English (C1), Turkish (C1), German (B1)

Interests

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