ANAR AMIRLI

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EDUCATION

M.Sc. Computer Science Apr 2020–Aug 2025
Universität des Saarlandes Saarbrücken, Germany

- Graduated with **1.3 thesis grade**; **DAAD Scholarship** recipient
- **Master's thesis**: Beyond Heatmaps: Graph-based Concept Reasoning for Interpretable Visual Models
- **Extracurriculars**: Political Science Reading Group, Contemporary Ballet and Hip-Hop Dance Club.

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

- Graduated with **1.3 grade** and **Honors**; **Government Scholarship** recipient
- **Extracurriculars**: ICT Robotics Team, TEDxQafqazUniversity

EXPERIENCE

Junior Machine Learning Engineer Jan 2026–present
BEGO GmbH & Co. KG Bremen, Germany

- Conduct research and develop novel AI-assisted methods for 3D design of inter-oral medical components (e.g., implants)

Research Fellow–Intern Nov 2025–Feb 2026
AI Safety Saarland Saarbrücken, Germany

- Conducting research on social biases in large language models (LLMs) and vision–language models (VLMs).
- Collaborating with interdisciplinary teams on interpretability, AI safety, and AI governance.

Research Assistant & Thesis (Explainable AI) Apr 2023–Aug 2025
IML, DFKI GmbH Saarbrücken, Germany

- Developed self-explainable vision model, outperforming CBM baselines by ∼3% on medical imaging.
- Benchmarked VLMs (CLIP, MedCLIP) for diagnostic interpretability in medical imaging.
- Designed and conducted large-scale statistical evaluations of the reliability of self-explainable models.

Research Assistant (Machine Learning) Nov 2021–Sep 2022
SSE, DFKI GmbH Saarbrücken, Germany

- Developed and deployed a self-supervised anomaly detection system for Schott AG.
- Improved localization accuracy by 13% using explainability.
- Fine-tuned LLMs (T5/BART) for automated incident reporting.

Research Assistant (Computer Vision) Feb 2021–May 2022
TESLAB, Nanyang Technological University Singapore (remote)

- Built multimodal generative framework for 2D/3D topology optimization (91–99% accuracy).
- Implemented and benchmarked diffusion models, VAEs, and GANs for generative shape design.

Intern (Machine Learning) Jan 2019–Jun 2019
ATL Tech Baku, Azerbaijan

- Developed a speech-to-text recognition system for aviation training simulators.
- Engineered spectrogram/MFCC features; trained LSTM/HMM models.

Intern (Data Science & Machine Learning) Jun 2018–Sep 2018
ImageLab, Middle East Technical University Ankara, Turkey

- Built ball position estimation model for football tracking.
- Processed and analyzed large-scale, multi-season football match data.

TECHNICAL SKILLS

Courses: Machine Learning, Data Science, Neural Networks, Statistics, Gradient Boosting, Generalized Additive Models, NLP
Programming: Python (PyTorch, TensorFlow, SciPy, sklearn, OpenCV, Pandas, XGBoost), C++, Java, MATLAB, R

SOFT SKILLS

Languages: Azerbaijani (native), English (fluent), Turkish (fluent), German (intermediate)
Other: Intercultural competence, teamwork, adaptability, problem-solving, critical thinking, creativity

Experience Demonstrating Soft Skills Apr 2022–Nov 2025
Service Staff, Old Murphy's Irish Pub Saarbrücken

- Delivered clear and friendly communication to diverse international customers.
- Proven ability to stay calm, efficient, and reliable in fast-paced and high-pressure situations.
- Worked closely with a diverse team, strengthening teamwork and coordination skills.

PROJECTS

Concept-Based Explainable Model | PyTorch, OpenCV, SciPy | **Thesis**

- Built an ante-hoc explainable model using GATs and NMF-derived concepts for dermatology images.
- Achieved strong generalisation and surpassed baseline CBMs in several settings.

Anomaly Detection & Reporting | Hugging Face, Python, FAST API, Docker | **SPAICER project**

- Built anomaly detection and localisation systems using autoencoders and post-hoc XAI.
- Fine-tuned LLMs to generate structured incident reports from sensor data.

Generative Models for Topology Optimisation | PyTorch, TensorFlow, OpenCV | **Grant-funded Project**

- Used GANs and diffusion models to generate optimised 2D/3D structural designs.
- Mapped multimodal physical inputs to high-quality design outputs.

PUBLICATIONS

- Unsupervised multi-sensor anomaly localization with explainable AI. Ameli, M., Pfanschilling, V., **Amirli, A.**, Maaß, W., Kersting, K. *Artificial Intelligence Applications and Innovations*, Springer, 2022. DOI: 10.1007/978-3-031-08333-4_41

For the full publication list, see Google Scholar.

HOBBIES

- Cooking (trained cook)
- Reading (biopolitics, structuralism, feminism)
- Pottery
- Dancing
- Table Tennis
- Cycling