ANAR AMIRLI

📅 Date of Birth: June 1997
🌎 Nationality: Azerbaijani (EU work eligibility)
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EDUCATION

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

- Grade: 2.4 | DAAD (Deutscher Akademischer Austauschdienst) Fully Funded Graduate Scholarship

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

- Grade: 1.3 | Graduated with Honors | Government Scholarship for Academic Excellence

WORK EXPERIENCE

Research Assistant & Master's Thesis (Computer Vision)   Saarbrücken, Germany
DFKI GmbH (German Research Center for Artificial Intelligence)   Mar 2023 – Aug 2025

- Designed and implemented a concept-based, **self-explainable vision model for skin cancer diagnosis**, surpassing baseline models (e.g., CBMs) by more than 3% in performance.
- Leveraged **vision-language models** (e.g., CLIP, MedCLIP) to benchmark explainability on medical **imaging datasets**.
- Conducted **large-scale statistical analyses** to evaluate the consistency of explanations from self-explainable models.
- Supervisor: Prof. Daniel Sonntag.

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

- Developed and deployed ML pipelines (e.g., autoencoders) for real-time **anomaly detection** in manufacturing lines at Schott AG.
- Enhanced anomaly detection and localization accuracy with post-hoc explainability methods by **13%**.
- Fine-tuned **transformer-based LLMs** (e.g., T5, BART) to **generate incident reports** from sensor telemetry to assist early incident assessment.
- Team Leader: Prof. Wolfgang Maaß.

Student Research Assistant (Generative AI)   *Singapore* (remote)
TESLAB, Nanyang Technological University   Feb 2021 – May 2022

- Developed **multimodal-to-image translation** framework with Generative AI models for topology optimisation of 2D/3D structures, achieving **91–99%** accuracy and enabling near real-time optimization.
- Conducted a comprehensive literature review on generative models, including diffusion models, VAEs, and GANs.
- Supervisor: Dr. Bakytzhan Akhmetov.

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

- Assisted in developing a **speech recognition system** used in flight training simulations at an aviation academy.
- Performed **feature engineering** for unstructured audio data (e.g., spectrograms, MFCCs) and trained **sequence models** (e.g., LSTMs, HMMs) on cockpit command samples.
- Supervisor: Assoc. Prof. Samir Rustamov.

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

- Designed and implemented an ML model for ball position estimation in football, helping tracking cameras handle occlusions.
- Conducted **data cleaning**, **feature engineering**, and **visualization** for **sports analytics**.
- Supervisor: Assoc. Prof. Hande Alemdar.

SKILLS

- **Programming & Data**: Python (PyTorch, TensorFlow, SciPy, Scikit-learn, OpenCV, Hugging Face), C++, Java, MATLAB, R
- **Data**: SQL, Spark, MySQL, MongoDB

- **MLOps & Tools:** MLflow, Docker, CI/CD, FastAPI, Flask, AWS, Airflow
- **Languages:** Azerbaijani (native), English (C1), Turkish (C1), German (B1)
- **Others:** GPU-Accelerated Programming, Clean and Secure Coding, Linux

CERTIFICATES

High Level Computer Vision by MPI; **Optimization for Machine Learning** by CISPA; **Predictive Analytics with R** by DFKI; **Developing Machine Learning Solutions** by AWS; **Generative AI with Large Language Models** by AWS.

SELECTED PUBLICATIONS (Full Scholar Link)

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.

HOBBIES

Reading in social theory (Structuralism, Biopolitics, Feminism); Doing pottery and ceramics; Playing tar, electric guitar, and mixing vinyl records; Cooking (used to work in a family restaurant).