# ANAR AMIRLI

Date of Birth: June 1997
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## SUMMARY

Experience in research and development of data science, machine learning, deep learning (vision–language), and explainable AI.

## WORK EXPERIENCE

**AI Safety Saarland** — Saarbrücken, Germany
**Research Fellow — Intern** — *Nov 2025 – present*

- Working on **evaluating and mitigating social biases in multimodal large language models** (LLMs).
- Applying quantitative fairness metrics and model evaluation techniques to analyse bias patterns in multimodal models.

**German Research Center for Artificial Intelligence (DFKI GmbH)** — Saarbrücken, Germany
**Research Assistant & Thesis (Machine Learning)** — *Mar 2023 – Aug 2025*

- Designed and developed a **self-explainable vision model for dermatological diagnosis**, surpassing CBM baselines by ~3%.
- Leveraged **vision-language models** (e.g., CLIP, MedCLIP) to benchmark explainability across medical datasets.
- Conducted **large-scale statistical analyses** to evaluate the consistency of explanations from self-explainable models.

**German Research Center for Artificial Intelligence (DFKI GmbH)** — Saarbrücken, Germany
**Working Student (Data Science)** — *Nov 2021 – Sep 2022*

- Developed and deployed a **self-supervised anomaly detection** system for manufacturing lines at Schott AG.
- Improved anomaly localization accuracy by **13%** using post-hoc explainability methods.
- **Fine-tuned transformer-based LLMs** (T5, BART) to automatically generate textual incident report from anomalous sensor data.

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

- Developed a **multimodal generative AI** framework for 2D/3D topology optimization, achieving 91–99% accuracy and near real-time performance.
- Conducted an extensive literature review on **diffusion models**, **VAEs**, and **GANs** to guide framework design.

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

- Assisted in developing a **speech recognition system** for flight training simulations at the national aviation academy.
- Engineered audio features (spectrograms, MFCCs) and trained LSTM/HMM models on cockpit command data.

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

- Designed and developed a ball position **estimation ML model** for football tracking systems.
- Processed **large-scale** match **data** over multiple seasons, performing **feature engineering**, and **visualization**.

**NSPSOLUTIONS LLC** — Baku, Azerbaijan
**Software Developer** — *Sep 2017 – Jun 2018*

- Developed multi-feature Android apps with backend integration (HTTP APIs to Java)
- Contributed to the mobile app development for Opal Transfer LTD.

## EDUCATION

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

- Thesis Grade: 1.0 | Deutscher Akademischer Austauschdienst (DAAD) 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

## CERTIFICATES

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

## SKILLS

- **Programming**: 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 Computing, Secure Coding, Linux

## 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)