

Abdullah Kazimov

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Research Interests

My research focuses on the algorithmic foundations and societal impacts of **Trustworthy AI**. Recently, I achieved a **94% weighted F1-score**, outperforming state-of-the-art methods and commercial products on benchmark datasets including Few-NERD, RE3D, and GMB, while training a BERT-based token classification model for Data Loss Prevention (DLP). My research interests include:

- Design AI systems that preserve sensitive information without compromising accuracy
- Evaluate fairness and bias in multimodal AI systems across diverse populations
- Build interpretable models for real-world high-stakes applications

Publications & Conferences

How Data Mining Algorithms Affect the Interpretability of Machine Learning Models - Comparison with Explainable AI (XAI) Libraries SHAP, LIME and ELI5
Under Review, [YRC-AIBD '25](#)

April 12, 2025

Professional Experience

Research Affiliate

Data Agency and Security (DAS) Lab

*Fairfax, VA
October 2025 - Present*

- Outperformed benchmark performance with **97% F1-score** in fault diagnosis detection of air handling units
- Developed edge-aware federated learning system for internet of medical things (IoMT)
- Designed a baseline model and data balancing method to improve rare-fault accuracy

Machine Learning Engineer

Polygraf AI

*Austin, TX
September 2024 - Present*

- Achieved **94% F1-score** in DLP, outperforming Amazon, Google, and Microsoft solutions
- Extended DLP to multimodal data including vision and audio, enabling secure multimodal redaction
- Developed **privacy-preserving LLM** workflow, compliant with GDPR, HIPAA, and CCPA standards

Research Affiliate

GWU CS Software Engineering Lab

*Washington, DC
July 2025 - October 2025*

- Outperformed **GPT-4** and GPT-3.5 on MIMIC-IV dataset for clinical predictions
- Developed an adaptive traffic signal control designed for central Baku transportation in Azerbaijan
- Studied Country Development Profiling with an emphasis on innovation for 150 countries

Founder

Tifosi AI

*Baku, Azerbaijan
April 2024 - March 2025*

- Published the largest Azerbaijani text-based NLP corpus of its time - [ButaBytes](#) (May 2024)
- Recognized as a **top AI startup** in Azerbaijan by F6S, a global startup community (January 2025)
- Built the media analytics infrastructure of [Nino](#) and deployed at State Border Service of Azerbaijan

Teaching

- **2024, Fall** CSCI 3509: Introduction to Software Engineering, ADA University
- **2023, Spring** CSCI 1202: Programming Principles II, ADA University

Education

George Washington University

Master of Science in Computer Science

Washington, DC

September 2024 - Present

- **GPA:** 3.52 / 4.00
- **Advisor:** Jamal Hasanov
- **Thesis Topic:** Adaptive Traffic Signal Control using Fuzzy Logic and Reinforcement Learning
- **Relevant Coursework:** Artificial Intelligence, Machine Learning, Computational Linear Algebra, Guided Research for Graduate Students I & II, Introduction to Big Data and Analytics, Database Management Systems, Computer Organization and Architecture

ADA University

Bachelor of Science in Information Technology

Baku, Azerbaijan

September 2020 - June 2024

- **GPA:** 3.10 / 4.00
- **Advisor:** Samir Rustamov
- **Capstone Project:** BERT-Powered News and Social Media Analysis System
- **Relevant Coursework:** Linear Algebra, Probability & Statistics, Discrete Mathematics, Data Structures and Algorithms, Competitive Programming I, Data and Information Engineering

Honors & Awards

- 2024** State Program on Education of Azerbaijani Youth Abroad Scholarship
- 2023** “Elachi” scholarship winner for academic excellence (among top 100 of 2,500 students)
- 2022** Winner of International Collegiate Programming Contest (ICPC), Azerbaijan Regionals
- 2021** “Dean’s List of Distinction” scholarship winner by ADA University
- 2020** High School Graduate with a Gold Medal (Top 0.1% of 90,000, Class of 2020)
- 2019** Bronze medal at Republican Olympiads in Informatics among high school seniors in Azerbaijan
- 2018** Honorable Mention at ICPC, Azerbaijan Regionals as a high school team member
- 2017** Bronze medal at Republican Olympiads in Informatics among high school juniors in Azerbaijan

Technologies

Languages: Python, C/C++, SQL, R, Matlab, Java, JavaScript, HTML/CSS

Frameworks: PyTorch, TensorFlow, Keras, FastAPI, Docker, Apache Spark, Apache Hadoop

Cloud Technologies: Google Cloud Platform, Amazon Web Services, Microsoft Azure

Libraries: Hugging Face Transformers, Sentence Transformers, OpenCV, NLTK, SpaCy, Pandas, NumPy, Scikit-learn, Seaborn, Plotly, Matplotlib, Gradio, Streamlit

Languages

English (fluent), **Turkish** (fluent), **Azerbaijani** (native)