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 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

Machine Learning Engineer
Polygraf AI

Austin, TX
September 2024 - Present

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

Deep Learning Researcher
GWU CS Software Engineering Lab

Washington, DC
July 2025 - August 2025

- Developed a deep reinforcement learning-based multi-agent system, achieving **robustness** with **98% performance retention** and statistical significance at $p < 0.02$ for traffic signal control
- Demonstrated expertise in 5 peer projects on diverse AI domains, including **adversarial ML**

Founder
Tifosi AI

Baku, Azerbaijan
April 2024 - March 2025

- Published the **largest Azerbaijani text-based NLP corpus of its time**, supporting underrepresented languages, comprising 43M sentences for text summarization and generation - ButaBytes⧉ (May 2024)
- Built the infrastructure of Nino⧉ - **media analytics and secure AI system** for operational decision-making; deployed at the State Border Service of Azerbaijani Republic
- Recognized as a **top AI startup** in Azerbaijan by F6S, a global startup community (January 2025)

Teaching

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

Education

George Washington University   *September 2024 - Present*
Master of Science in Computer Science

- **GPA**: 3.52 / 4.00
- **Advisor**: Jamal Hasanov
- **Thesis Topic**: Multi-Agent Deep Reinforcement Learning for Traffic Signal Optimization
- **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   *September 2020 - June 2024*
Bachelor of Science in Information Technology

- **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)