Abdullah Kazimov

Washington, DC, U.S. abdullah.kazimov@**GWU**.edu in abdullahkazimov

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 *April 12, 2025*
Under Review, **YRC-AIBD '25**

Professional Experience

Machine Learning Engineer *Austin, TX*
Polygraf AI *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 *Washington, DC*
GWU CS Software Engineering Lab *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 *Baku, Azerbaijan*
Tifosi AI *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
- **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
- **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)