Umid Suleymanov

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Professional Experience

Data Science Intern, Amazon (AWS Proactive Security) May 2025 – Aug 2025
- Developed statistical and ML models and performed analysis to process large-scale security data.
- Built ETL pipelines, dashboards, and metrics to deliver actionable insights using Python, SQL, and AWS tools.

Graduate Research Assistant, Virginia Tech Aug 2024 – Present
- Published research on semi-supervised few-shot learning for Network Intrusion Detection.
- Developed policy-grounded RAG-based agentic defenses for detecting and mitigating LLM jailbreak attacks.
- Conducting research on LLM privacy leakage, including membership inference, memorization analysis, and agent-based reflective defenses.

Leading Data Scientist, E-Gov Development Center Jun 2022 – Jan 2023
- Led the development of end-to-end ML pipelines, integrating predictive models into production.
- Improved a sentiment analysis model using 164M-token word embeddings, enhancing accuracy by 4%.
- Created Elasticsearch text analyzers, increasing click-through rates by 6%.

Senior Data Scientist, E-Gov Development Center Nov 2019 – Jun 2022
- Built an anonymization model using NER, improving process speed by 32%.
- Developed predictive models, reducing queue related complaints by 16%.

Education

Virginia Tech, Virginia, USA 2024 – 2028 (Expected)
PhD in Computer Science , *(GPA: 4.0)*

Khazar University, Baku, Azerbaijan 2019 – 2021
Master of Science in Computer Science, *First Class Honors (GPA: 4.0)*

ADA University, Baku, Azerbaijan 2013 – 2018
Bachelor of Science in Computer Science, *Cum Laude (GPA: 3.72)*

Latest Publications

- SIGMA: Search-Augmented On-Demand Knowledge Integration for Agentic Mathematical Reasoning, *AAAI*, 2025.
- SSPNet: Semi-Supervised Prototypical Networks for Few-Shot Network Intrusion Detection, *IEEE MILCOM*, 2025.
- Deep Unlearning of Breast Cancer Histopathological Images. *IEEE AICT*, 2024.
- Contextualized Word Embeddings for Azerbaijani. *IEEE AICT*, 2024.

Technical Skills

- TensorFlow, PyTorch, Keras, Transformers, vLLM
- Spark, BigQuery, AWS S3/SageMaker, ETL pipelines
- Supervised & unsupervised learning
- Few-shot & semi-supervised learning, NLP, LLMs
- Matplotlib, Seaborn, Plotly, Dash, Tableau, Power BI
- Docker, Git, version control, CI/CD basics

Honors & Achievements

- Finalist at International Data Analysis Olympiad
- TensorFlow Developer Certificate
- First Place, AzInTelecom Hackathon
- Instructor at 30 Days of ML — Kaggle, Google (2021)
- 8+ peer-reviewed papers in AI/ML
- Honorable Mention, ACM ICPC Contest