

ISMAT SAMADOV

Machine Learning Engineer — Production ML, Computer Vision & MLOps

- 📍 **Location:** Baku, Azerbaijan
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- 💻 **GitHub:** github.com/Ismat-Samadov
- 🕒 **Availability:** ASAP

PROFESSIONAL SUMMARY

Seasoned Machine Learning Engineer with a strong engineering mindset and proven track record of building production-ready ML systems across computer vision, NLP, and financial ML domains. Currently developing enterprise ML solutions at Kapital Bank while maintaining multiple open-source projects. Expert in designing data pipelines, optimizing real-time inference, containerized deployments, and automated model monitoring.

Key Achievements

- 15+ production-ready ML systems built and maintained
- 1M+ daily predictions supported in production environments
- <100ms latency achieved in real-time inference pipelines
- 93.3% mAP50 computer vision model (YOLOv8) for UAV imagery

TECHNICAL SKILLS

Machine Learning & AI

- **Deep Learning:** CNNs, Object Detection, Semantic Segmentation, Time-Series Models, Generative AI
- **Model Types:** YOLOv8, Transformers, Classification/Regression, Ensemble Methods
- **Frameworks:** PyTorch, TensorFlow, scikit-learn, XGBoost, Hugging Face

Computer Vision & Imaging

- **Applications:** Object Detection, Semantic/Instance Segmentation, DICOM Medical Imaging
- **Tools:** OpenCV, Albumentations, YOLO Family, Multispectral/UAV Data Processing

Natural Language Processing

- **Capabilities:** Transformers, Custom Tokenization, NER (Azerbaijani), Text Classification
- **Deployment:** Production NLP Microservices, Real-time Inference APIs

MLOps & Production Engineering

- **Containerization:** Docker, Kubernetes
- **Model Serving:** FastAPI, REST APIs, Model Versioning
- **Monitoring:** MLflow Workflows, Automated Retraining, Drift Detection
- **CI/CD:** ML Pipeline Automation, Reproducible Deployments

Data Engineering

- **Databases:** PostgreSQL, Oracle (Complex SQL Optimization)
- **Pipelines:** ETL/ELT, Feature Engineering, High-throughput Feature Serving

- **Geospatial:** GeoTIFF, GDAL/Rasterio for Aerial/UAV Projects

Development Tools

- **Languages:** Python (Expert), Bash, Basic Frontend
- **Tools:** Git/GitHub, Jupyter, VS Code, Postman, Docker
- **Monitoring:** Alerting Systems, Latency Profiling

PROFESSIONAL EXPERIENCE

Kapital Bank | SQL Developer & ML Engineer

Feb 2023 - Sep 2025 | Baku, Azerbaijan

- Design and implement ML feature pipelines using SQL and ETL workflows for production models (fraud detection, risk scoring)
- Build and maintain containerized REST APIs for real-time inference and batch scoring with focus on latency optimization
- Implement automated data extraction and feature computation processes; optimize DB schemas for high-throughput serving
- Collaborate with cross-functional teams to productionize models with monitoring and safe deployment patterns
- Contribute to compliance-aware ML implementations (Basel III/IFRS9 context)

Unibank | Business Analytics & Data Science

Dec 2021 – Feb 2023 | Baku, Azerbaijan

- Built predictive models and prototypes for product and underwriting decisions
- Delivered automated Power BI dashboards and ETL processes for reporting workflows

- Performed exploratory data analysis, segmentation, and prototype model validation
- Supported A/B testing and KPI measurement initiatives

Unibank | Risk Analyst & Data Specialist

Sep 2019 – Dec 2021 | Baku, Azerbaijan

- Performed quantitative credit risk assessments and produced policy refinement reports
- Developed data quality checks and early-warning metrics for portfolio monitoring
- Collaborated on fraud detection and risk mitigation strategies

EDUCATION

MSc, Artificial Intelligence (Ongoing)

Azerbaijan State University of Economics

BSc, Management of Industry (2012-2016)

Mingachevir State University

CERTIFICATIONS

Oracle Database SQL Certified Associate

Oracle | ID: 290631207OCASQL12C | May 2022

Additional: 40+ online certifications in ML, data engineering, and software practices

Full list available at ismat.pro

FEATURED PROJECTS

Tree Disease Detection — YOLOv8 UAV Pipeline

Productionized object detection for agricultural monitoring with complete inference pipeline,

REST API, and automated retraining. Achieved 93.3% mAP50.

Tech Stack: YOLOv8, Docker, FastAPI, MLOps Pipeline

Links: Available on ismat.pro and GitHub

Fraud Detection System

End-to-end financial ML pipeline: ETL → Feature Engineering → Training → Deployment → Monitoring

Demo: fraud-detection-gyhe.onrender.com

Repo: github.com/science-analyse/fraud_detection

Customer Lifetime Value (CLV) Model

RFM analysis with predictive modeling approach, feature pipelines, and demo API

Demo: clv-model.onrender.com

Repo: github.com/science-analyse/clv_model

Probability of Default (PD) Model

Credit scoring pipeline with interpretability features and comprehensive validation

Demo: probability-default.onrender.com

Repo: github.com/science-analyse/probability_default


Azerbaijani NLP Services

Low-resource NER engine with custom tokenization and FastAPI microservices for real-time inference

Details: Available at ismat.pro

Note: Demo links may require 60-90 seconds to load (hosted on free Render plans)

CONTACT & AVAILABILITY

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Open to: Full-time Machine Learning Engineer positions

Location: Remote/hybrid arrangements negotiable