

Margarita Makeeva

Research Programmer | Biomedical Data Science | Python / Machine Learning

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PROFILE

Research-oriented software developer and data scientist with Applied Informatics background and hands-on experience building Python-based ML workflows, research software, dashboards, APIs, and reproducible computational notebooks. Strong interest in biomedical data science, computational biology, multi-modal biological data, and interpretable AI/ML for interdisciplinary research environments.

TECHNICAL SKILLS

Programming	Python, SQL, JavaScript, TypeScript, Java, HTML/CSS
ML / AI	scikit-learn, PyTorch, TensorFlow, XGBoost, feature engineering, model evaluation, AI integration
Data / Research	pandas, NumPy, Jupyter, data cleaning, longitudinal analysis, graph-based analysis, statistical workflows
Databases / APIs	SQL, PostgreSQL, MongoDB, SQLite, FastAPI, REST APIs, data ingestion, validation, query logic
Visualization	Streamlit, Plotly, Matplotlib, Seaborn, dashboard prototyping, scientific visualizations
Tools	Git/GitHub, pytest, reproducible notebooks, technical documentation, workflow organization

EDUCATION

Financial University under the Government of the Russian Federation - B.S. in Applied Informatics / Computer Science, 2026

RELEVANT EXPERIENCE

AI Integration Assistant - Internship

Actors Theater for Film and Television - Philadelphia, PA - Feb 2025 - Dec 2025

- Assisted in integrating AI tools into organizational and business workflows; researched emerging AI technologies and evaluated practical use cases for automation and internal process improvement.
- Supported implementation planning for AI-assisted systems, including tool comparison, documentation, and usage recommendations; applied SQL, software development, and technical research skills.

AI Software Developer - Internship

American Pain Association - Bala Cynwyd, PA - Sep 2025 - Nov 2025

- Developed AI integration solutions for research-oriented workflows in collaboration with medical specialists.
- Contributed to projects aimed at improving pain-management research methodologies through AI-assisted software tools and interdisciplinary communication.

SELECTED RESEARCH SOFTWARE PROJECTS

NeuroBridge-S4 Graph Learning

Biomedical data science / graph learning | github.com/Margarita215729/NeuroBridge-S4-Graph-Learning

- Built a research-software prototype for representing small-N longitudinal biomedical data as biological adaptation graphs, connected to a NASA Artemis II Human Research Data Methodology Challenge submission.
- Implemented graph construction, longitudinal trajectory analysis, feature extraction, similarity mapping, reference-calibrated envelope analysis, explainable trajectory attribution, and resilience interpretation cards.
- Created Streamlit dashboard components and an experimental PyTorch temporal graph autoencoder showcase for self-supervised graph-derived representation learning.

NASA Artemis II Human Research Data Methodology Challenge Package

Human research data methodology | github.com/Margarita215729/NASA-Artemis-II-Human-Research-Data-Methodology-Challenge

- Prepared a methodology-focused package for small-N longitudinal human research data in spaceflight-like contexts using proxy public health data, reproducible notebooks, reviewer documentation, and careful limitation framing.

Scientific Data Management Platform

Scientific computing / FastAPI / data infrastructure | github.com/Margarita215729/scientific-api

- Built a scientific data management platform for collecting, cleaning, validating, analyzing, and visualizing datasets; developed FastAPI backend components and ingestion workflows for CSV, JSON, FITS, XML, and Parquet.

Data Science & Machine Learning Portfolio

Python / predictive modeling | github.com/Margarita215729/data-science-ml-portfolio

- Developed applied ML workflows for classification, regression, clustering, forecasting, and exploratory analysis using scikit-learn, XGBoost, pandas, NumPy, feature engineering, model evaluation, and visualization.

ADDITIONAL STRENGTHS

Interdisciplinary interest in biology, psychology, machine learning, and scientific data interpretation; comfortable translating computational outputs for mixed research teams; interested in collaboration with wet lab scientists, bioinformaticians, clinicians, and biomedical researchers; bilingual English/Russian.