Yelizaveta Semikina

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Professional Summary

Biomedical Engineering MS candidate and Data Scientist with experience in clinical data analysis and machine learning for healthcare.

Education

The University of Illinois, Chicago (UIC)	January 2025 - Present
Master of Science in Biomedical Engineering	GPA 3.7/4.0

The University of Illinois, Chicago (UIC)	August 2019 - December 2023
Bachelor of Science in Data Science	GPA 3.5/4.0

Professional Experience

NeuroSpeech Project, University of Illinois Chicago

Graduate Research Assistant   September 2025 - Present

• Built an automated Python pipeline to analyze clinical speech data from 30+ neurological and head-and-neck cancer patients, processing 11 speech tasks per session across repeated visits.
• Extracted 50+ acoustic, articulation, prosodic, and intelligibility metrics per session and generated clinician-ready PDF reports with standardized visualizations.
• Designed and maintained a Firebase-based backend supporting end-to-end data ingestion, structured metadata storage, emulator testing, and deployment-ready workflows.
• Co-author on an upcoming manuscript on lingual rehabilitation outcomes in hypoglossal (CN XII) neuropathy using a novel speech tracking application.

Independent Study Researcher   August 2025 - December 2025

• Analyzed baseline data from a heart-failure mHealth trial (N = 89) using Python to examine predictors of self-care and health status.
• Conducted statistical analysis across 6 validated clinical and behavioral instruments (SCHFI, KCCQ, PHQ-9, MoCA, Charlson, DHFKS).

Hippocampal Calcium Imaging Research   January 2025 - September 2025

• Conducted calcium imaging data analysis to investigate spatial reorientation and context recognition in CA1.
• Analyzed calcium imaging data from 200+ neurons across 10+ mice to identify distinct neural subpopulations.
• Used Python and MATLAB to compute representational similarity matrices (RSMs), non-negative matrix factorization (NMF), and supervised learning models for behavioral prediction.

9 Muses Bar & Grill

Data Analyst   May 2024 - December 2024

• Built a Python workflow to collect, clean, and structure 300+ Google Reviews, transforming unstructured text into analyzable datasets.
• Analyzed rating trends and recurring keywords across 12+ menu categories to identify drivers of customer satisfaction and service gaps.

UI Health - UIC Hospital

Intern   May 2023 - June 2023

• Developed user-facing healthcare application features using JavaScript, React, and SQL, improving data visibility for 50+ clinical users.
• Reduced iteration and feedback cycles by ~30% by translating clinical requirements into functional, testable prototypes.
• Collaborated with clinical and technical teams to convert user needs into data-driven product recommendations.

AbbVie

Intern   January 2023 - May 2023

• Contributed to the development of a personalized learning platform within a cross-functional team, supporting feature implementation and application enhancements.
• Designed, prototyped, and tested 6+ core application screens, including skill ranking, adaptive content delivery, and assessment workflows.

UIC AI Lab

Intern   May 2022 - June 2022

• Evaluated and compared 100+ images to support supervised training of machine vision systems.
• Evaluated and compared model accuracy across multiple computer vision models, contributing to performance optimization efforts.

Skills

Technical: Python, SQL, R, SAS, pandas, NumPy, SciPy, scikit-learn, MATLAB, Git, Firebase
Data & ML: Statistical modeling (OLS, GLM), regression, classification, clustering, forecasting, feature engineering
Visualization & Tools: Tableau, Jupyter, Excel, Seaborn, Matplotlib, ggplot2
Languages: Russian (fluent), Spanish (basic), Kazakh (basic)