

Yelizaveta Semikina

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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 3.53/4.0

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.

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 100+ 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 application as part of a cross-functional team during a 5-month internship.
- Helped design and test 6+ core application screens, including skill ranking, content delivery, and assessments.
- Performed statistical analysis using Python, R, and SQL, and communicated results to non-technical stakeholders.

UIC AI Lab

Intern

May 2022 - June 2022

- Collected and labeled 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.

Academic Research

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

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

Skills

Technical: Python, SQL, R, SAS, pandas, NumPy, SciPy, statsmodels, scikit-learn, Git, Jupyter, MATLAB, Tableau, Firebase, JavaScript, React, Node.js, HTML/CSS

Statistical Methods: OLS and GLM modeling, regression, feature engineering, forecasting, classification and clustering, statistical testing, data visualization, program evaluation

Language: Proficient in oral and written Russian, familiar with Spanish and Kazakh.