



Anastasiya Elizarova

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Email:

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Location:

Saint Petersburg, Russia

Anastasiya Elizarova holds a master's degree in Applied Mathematics and Informatics with a focus on computational biology and bioinformatics, and a bachelor's degree in Mathematical Software and Information Systems Administration. Anastasiya is currently working as a junior research at the Laboratory of Bio- and Chemoinformatics, HSE University. Her scientific interests include rational molecular design.

Her current research focuses on molecular dynamics simulations of metal-coordinated phthalocyanines in different lipid bilayers to evaluate their intramembrane stability for photodynamic therapy applications.

Work experience

2025–now | [Laboratory of Bio- and Chemoinformatics](#), HSE University 

Junior Researcher

Research adviser: Maxim Gureev, PhD in Medicinal Chemistry

Education

2024–2026 | National Research University Higher School of Economics 

MSc in Bioinformatics

Applied Mathematics and Informatics,

Computational Biology and Bioinformatics

Thesis: Rational design of antibodies conjugated with metal chelating groups to enhance antitumor effect (part of the RSF No. 25-75-10075)

2020–2024 | Peter the Great St.Petersburg Polytechnic University 

BSc in Computer Science & Information Systems

Mathematical Software and Information Systems Administration

Thesis: Modification of decision tree and random forest models to ensure classification robustness and accuracy through the introduction of random noise (part of the RSF No. 25-21-00103)

Industry internship

summer 2023 | ParseqLab 

Development: automated pipeline analyzing raw sequencer output files to calculate sequencing quality-control metrics, generate reports, upload them to Confluence

Publications

- Konstantinov, A., [Elizarova, A.](#), & Utkin, L. (2026). Enhancing Boundary Stability in Decision Trees and Random Forests: A Weighted Sample Duplication Approach. Computing, Telecommunication and Control. [doi:10.18721/JCSTCS.19102](https://doi.org/10.18721/JCSTCS.19102)
- Chebotarev, V., Andreyuk, D., [Elizarova, A.](#), & Ushakov, V. (2022). Polarization of opinions in the group: a modeling algorithm considering the dynamics of social bonds. *Procedia Computer Science*, 213, 596–601. [doi:10.1016/j.procs.2022.11.108](https://doi.org/10.1016/j.procs.2022.11.108)

Technical skills

Molecular modeling: Schrödinger Suite, GROMACS (Molecular Dynamics, Protein-Protein Docking)

Programming languages: Python, C++, C#, PL/SQL (Oracle Database)

Frameworks & libraries: BioPython, scikit-learn, PyTorch, pandas, NumPy, SciPy, matplotlib, PyQt5

Tools: Bash, Git

Professional development

2026 | V School-Conference of Novosibirsk State University (NSU)  **N***
"Application of Synchrotron Radiation for Solving Biological Problems"

Seminar: Protein structure determination via processing of raw X-ray diffraction data (CCP4 software suite)

2023–2026 | HSE Winter School on Bioinformatics and Molecular Modeling 

2021 | Artificial Intelligence Bootcamp "Digital centaur 2.0"

2020 | NTI Olympiad "Neurotechnologies and Cognitive Sciences" (finalist)

2019 | Educational intensive "Island 10-22", Skoltech 
NeuroNet Track, BiTronics Lab;

2016–2018 | Yandex Lyceum (graduated with honors) 