Daniil Vlasenko

✉️ vlasenko.daniil.vl@gmail.com
🌐 daniilvlasenko.info

Education

National Research University Higher School of Economics (HSE University), Institute for Cognitive Neurosciences
MS, Cognitive Sciences and Technologies
Moscow, Russia, September 2023 – present

Saint Petersburg State University (SPbU), Department of Mathematics and Mechanics
BS, Applied Mathematics and Computer Science
St. Petersburg, Russia, September 2019 – June 2023

Additional education

Neuromatch Academy, Computational Neuroscience course
Online, 8 - 26 July 2024

Mediterranean School of Complex Networks
Grado, Italy, 30 June - 5 July 2024

Bioinformatics Institute (BI), Professional retraining program "Algorithmic Bioinformatics"
St. Petersburg, Russia, September 2022 – January 2023

Selected Publications

(Q1 Scientific Journal) Krivonosov, M., Nazarenko, T., Ushakov, V., Vlasenko, D., Zakharov, D., Chen, S., Blyus, O., & Zaikin, A. (2025). Analysis of Multidimensional Clinical and Physiological Data with Synolitical Graph Neural Networks. Technologies, 13(1), 13.

Vlasenko, D., Zaikin, A., & Zakharov, D. (2024). *Ensemble methods for representation of fMRI, EEG/MEG data in graph form for classification of brain states*. In *Proceedings of the 2024 8th Scientific School Dynamics of Complex Networks and Their Applications (DCNA)* (pp. 258–261). Kaliningrad, Russian Federation.

Additional publications can be found on my Google Scholar page.

Selected Conferences

Baltic Forum 2024: Neuroscience, Artificial Intelligence and Complex Systems, VIII Scientific School “Dynamics of Complex Networks and their Applications”, topic “*Ensemble methods for representation of fMRI, EEG/MEG data in graph form for classification of brain states*” (poster presentation).

Baltic Forum 2023: Neuroscience, Artificial Intelligence and Complex Systems, VII Scientific School “Dynamics of Complex Networks and their Applications”, topic “Classification of brain activity using Synolitic networks” (poster presentation).

Scholarships and fellowships

Combined Master's-PhD track at HSE University, the talent program designed for graduate students enrolled on full-tuition scholarships.
September 2023 – present

Academic Development Program (New Scientist category) at HSE University, the talent management program aimed at supporting the professional development of promising teachers and researchers.
January 2024 - present

Research experience

Russian Science Foundation Interdisciplinary Grant 24-68-00030 "Next Generation Cognitive Artificial Intelligence"
Research-assistant
June 2024 - present

My tasks: development of representation methods of fMRI, EEG/MEG data in graph form and application of graph neural networks for a classification task of brain states.

Technologies: python, scikit-learn, pytorch geometric, igraph, nilearn, mne, scipy, numpy, pandas; R, dplyr, tidyr, ggplot2.

HSE University, Institute for Cognitive Neurosciences, Strategic Project "Human Brain Resilience", subproject "AI-based listening diagnostic systems"
Research-assistant
September 2023 – December 2024

My tasks: development of neuromorphic dynamic models of speech information processing based on cross-frequency interaction of macroscopic brain rhythms.

Technologies: python, numpy, pandas, matplotlib, scipy, jax, imit_utils, syllabify, brian2, brian2hears.

Teaching experience

Supervision of course and diploma works of undergraduate students, **HSE University**
September 2024 – present

Languages

Russian (native), English (B2)

Skills

Programming
Python — NumPy, Pandas, Matplotlib, SciPy, scikit-learn, PyTorch, PyTorch Geometric, igraph, nilearn, mne; R — dplyr, tidyr, ggplot2, igraph; C++; MySQL; algorithms and data structures; Linux-based operating systems; familiar with remote server operation (terminal, Bash), version control systems (git, GitHub), HTML, CSS, JavaScript and Selenium; preparing documents and presentation slides using LaTeX.

Data analysis and machine learning
Classical data analysis; analysis of categorial data; network analysis; machine learning including deep learning; databases (SQL queries). Analysis and preprocessing of fMRI, EEG/MEG data; analysis of neural electrode data (neuropixels probes).

Mathematics
Statistics; probability theory; graph theory; algebra; mathematical analysis; analytic geometry; computational mathematics; optimization methods.

Other

I started the project “MathBrain”. It’s aimed at promoting computational neuroscience and attracting students with backgrounds in mathematics and computer science to the Institute for Cognitive Neuroscience at HSE University.