Daria Nogina

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Education

Lomonosov Moscow State University **July 2018 – Expected June 2025**
Faculty of Bioengineering and Bioinformatics *Moscow, Russia*

Technosphere ML-training course **February 2020 - February 2021**
Lomonosov Moscow State University *Moscow, Russia*

- Relevant courses: advanced Python, C++, ML.
- Accomplished various course projects, including developing an NLP anomaly detection neural network and a simple cashing server.

Experience

IRA Labs **July 2022 – Current**
Middle Research Engineer, computer vision in medical imaging *Moscow, Russia*

- Launched a service to automatically detect kidney lesions on CT images which successfully passed medical examination.
- Enhanced the performance of adjacent products by designing and implementing a precise diaphragm localization pipeline, resulting in up to 10% increase.
- Participated in research work by conducting experiments and paper writing (coming soon).

Department of Computational Systems Biology, VIGG RAN **June 2019 – June 2023**
Researcher, bioinformatics: RNA biology, regulatory grammatics. Ivan Kulakovskiy *Moscow, Russia*

- Achieved **first place** in the machine learning hackathon as a member of the autosome.org team for DREAM-2023: Predicting gene expression using millions of random promoter sequences.
- Developed and optimized pipelines for conducting high-throughput data analysis in cancer research.
- Authored publications in Q1 journals such as NAR and Oxford Bioinformatics.

European Molecular Biology Laboratory (EMBL) **June 2019 – June 2023**
Researcher, bioinformatics: expression prediction with gene regulatory networks. Judith Zaugg *Heidelberg, Germany*

- Localized and fixed mistakes in the existing machine learning pipeline (train/test split, hyperparameters selection).

Teaching

Machine learning in medical imaging

- Developing the course on ML in medical imaging for master's program in Lomonosov Moscow State University.

Preparation for biology competitions

- Taught genetics, microbiology, molecular biology, and physiology to schoolchildren, applying my expertise as a top-15 participant in the All-Russian Biology Olympiad.

Technical Skills

Languages: Python (numpy, pytorch, sklearn, scipy, seaborn), R (advanced illustrations, statistics), C++ (concurrency)
Concepts: computer vision, medical imaging, bioinformatics
Developer Skills: Git, VS Code, Linux, bash
Spoken Languages: English (C1) | Russian (native) | German (A2)

Publications

Google scholar profile: *link* | h-index=3

- **Daria Nogina***, Dmitry Penzar*, et al, LegNet: a best-in-class deep learning model for short DNA regulatory regions, Bioinformatics, August 2023. (* - equal contribution). Impact factor: 6.9
- Victoria Smirnova, Ekaterina Shestakova, **Daria Nogina** et al, Ribosomal leaky scanning through a translated uORF requires eIF4G2, Nucleic Acids Research, Volume 50, Issue 2, 25 January 2022. Impact factor: 16.97
- Mikhail Moldovan, Zoe Chervontseva, **Daria Nogina**, Mikhail Gelfand, A hierarchy in clusters of cephalopod mRNA editing sites, Scientific Reports, February 2022. Impact factor: 4.6
- Aryan Kamal, Christian Arnold, Annique Claringbould, Rim Moussa, Nila H Servaas, Maksim Kholmatov, Neha Daga, **Daria Nogina** et al, GRaNIE and GRaNPA: inference and evaluation of enhancer-mediated gene regulatory networks, Molecular Systems Biology, 2023. Impact factor: 12.74
- Abdul Muntakim Rafi, Dmitry Penzar, **Daria Nogina** et al, Evaluation and optimization of sequence-based gene regulatory deep learning models, bioRxiv, 2023.