Alenicheva **Alisa**

Machine Learning Researcher

(+7) 915-086-52-15 | alisa.alenicheva@jetbrains.com | korney3

Summary

Areas of science interests - Machine Learning in Drug Discovery and Natural Language Processing.

Education

MIPT (Moscow Institute of Physics and Technologies), GPA 4.9/5.0 — *Moscow, Russia*

B.S. in Applied Mathematics and Physics

Thesis: Mathematical model of light distribution inside layer of microalgae liquid — *Sep. 2014 - Exp. Aug. 2018*

- Got an Abramov scholarship for academic achievements
- Graduated with Honors

Skoltech (Skolkovo Institute of Science and Technology), GPA 4.5/5.0 — *Moscow, Russia*

M.S. in Information Science and Technology

Projects: — *Sep. 2018 - Exp. Aug. 2020*

- **3D Segment Mapping using Data-Driven Descriptors**
  Labelling dataset of 3D pointclouds from KITTI dataset; extraction feature vectors from 3D pointclouds via autoencoder and classification of objects based on these vectors.
- **Thesis: Predicting the acute toxicity of organic molecules using 3D-convolutional neural networks**
  Transformation of SMILES organic molecules notation into 3D cube; reducing sparsity via convolution with specific kernels; data augmentation with molecule conformers; predict toxicity via 3D-CNN architecture: multi-label classification task (Tox21 dataset), multi-label regression task.

Work Experience

National Research Center «Kurchatov Institute»

Biotechnology Department — *Moscow, Russia*

Research assistant — *Oct. 2014 - Jun. 2019*

- Implemented software for reading and collecting data from sensors system of Bioreactor with LabView development environment
- Constructed the Arduino-based control unit of Bioreactor lighting
- Created a mathematical model of light distribution inside the Bioreactors with different geometries

Mobile TeleSystems (MTS)

Artificial Intelligence Department — *Moscow, Russia*

Intern — *Jun. 2019 - Sep. 2019*

- Entity Linking for the Russian language
- Collected dataset for Entity Disambiguation in the Russian language based on Wikipedia dump
- Created a prototype of software marking entities in a piece of text

Sberbank

Basics of Machine learning courses — *Moscow, Russia*

Mentor — *Oct. 2019, Feb. 2020, Jul. 2020*

- Materials preparation for seminars (Image Recognition tasks)
- Doing seminars on basics of classification and regression tasks, Computer Vision, NLP and Recommedation systems

JetBrains Research

Machine Learning Applications and Deep Learning Lab — *St. Petersburg , Russia*

Intern (Jul. 2020 - Aug. 2020)/Researcher(Present) — *Jul. 2020 - Present*

- Prediction of LogP and LogD Lipophilicity descriptors by means of Graph Neural Networks
- Applying set of automatic evaluation metrics for Retrosynthesis prediction models

Bioinformatics Institute — *St. Petersburg , Russia*

Teaching assistant — *Sep. 2020 - Now*

- Mentoring ”Algorithms in Bioinformatics” course

Publications

Nina Lukashina, Alisa Alenicheva, Elizaveta Vlasova, Artem Kondiukov, Aigul Khakimova, Emil Magerramov, Nikita Churikov, Aleksei Shpilman. *Lipophilicity Prediction with Multitask Learning and Molecular Substructures Representation*.

Machine Learning for Molecules Workshop at NeurIPS'2020, December 2020

Honors

2019	**1st Place, Unilever Chain Reaction Hack** - data analyst, designer	*Moscow, Russia*
2019	**1st Place, The Arctic Circle Hackathon** - data analyst, designer	*Salekhard, Russia*
2020	**2nd Place, SberCode Hackathon** - data scientist (NLP)	*Moscow, Russia*
2020	**1st Place, RaifHack** - data analyst	*Moscow, Russia*

Skills

Programming languages	• Python: Pytorch, Scikit-learn, Pandas, Matplotlib, Numpy, MPI4py • LaTeX (Basic) • SQL (Basic)
Relevant Coursework (Skoltech)	• Machine Learning • Natural Language Modelling and Processing • Deep Learning • Bayesian Methods of Machine Learning
Relevant Coursework (MIPT)	• Biology • Chemistry • Quantum Physics • Biochemistry
Languages	• Russian (Native) • English (Upper-Intermediate)
Tools	• Linux • Git • ssh