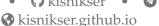
Nikita Kiselev

Moscow, Russia

☑ kiselev.ns@phystech.edu • ☑ Google Scholar in kisnikser • • kisnikser • d kisnikser





Check my Resume (one-page version)

Curriculum Vitæ

SUMMARY

Aspiring researcher (1+ year of research experience) in the field of machine learning and optimization. Focused on generative diffusion and multimodal models. Motivated for productive work and learning. Having a substantial theoretical foundation and mathematical background.

Professional Skills...

- 1. Generative AI: diffusion models, text2image, image2image, controllable generation (ControlNet), adapters (IP-Adapter, Face-Adapter), style transfer, instruction-based image editing, image quality assessment.
- 2. Computer Vision: medical images reconstruction and forecasting (fMRI, EEG).
- 3. **Optimization:** sample size determination, loss landscape, decentralized optimization.

EDUCATION

Moscow Institute of Physics and Technology

MSc in Computer Science

Sep 2024 - Present

Moscow Institute of Physics and Technology

BSc in Applied Mathematics and Physics

- Thesis: Bayesian Sample Size Estimation
- Advisor: Andrey Grabovoy, PhD
- GPA: 4.88/5 (with honours)

Moscow, Russia

Moscow, Russia Sep 2020 - Aug 2024

WORK EXPERIENCE

Sber AI Moscow, Russia Middle Data Scientist Jan 2025 - Present

Kandinsky Video Editing

Jun 2024 – Dec 2024

Research Intern Kandinsky Image Editing:

- Interior Design with Kandinsky 3 ControlNet for Domclick. Fine-tuned ControlNet on the interiors domain, implemented regional prompting for arbitrary segmentation masks and utilized ControlNet image2image
- Kandinsky 3 ControlNet Style (DepthPro) that outperforms ControlNet Union SDXL by 100% on ImageReward. Trained ControlNet over 300k steps on the 3M dataset, used DepthPro condition for the best image preserving and style editing.

Research Center for Artificial Intelligence, Innopolis University

Mathematician-programmer

Innopolis, Russia

Sep 2024 - Present

Research work in the field of optimization

Laboratory of Mathematical Methods of Optimization, MIPT

Technician

Moscow, Russia Oct 2023 – Apr 2024

- O Research work in the field of optimization
- Decentralized optimization with coupled constraints
- Network design problem

PUBLICATIONS

Published Papers: 1 × Q1

 D. Dorin, N. Kiselev, A. Grabovoy, V. Strijov Forecasting fMRI Images From Video Sequences: Linear Model Analysis Health Information Science and Systems, Q1

Accepted Papers: 2 × Q2.

1. N. Kiselev, A. Grabovoy

Unraveling the Hessian: A Key to Smooth Convergence in Loss Function Landscapes Accepted to the Doklady Mathematics journal, Q2

2. N. Kiselev, A. Grabovoy

Sample Size Determination: Likelihood Bootstrapping

Accepted to the Computational Mathematics and Mathematical Physics journal, Q2

Papers under Review & Preprints: $1 \times A^*$, $1 \times Q3$

 D. Yarmoshik, A. Rogozin, N. Kiselev, D. Dorin, A. Gasnikov, D. Kovalev Decentralized Optimization with Coupled Constraints Submitted to the ICLR 2025 conference with average rating 6.25, A*

2. N. Kiselev, A. Grabovoy

Sample Size Determination: Posterior Distributions Proximity Submitted to the Computational Management Science journal, Q3

Conference Theses...

1. N. Kiselev, A. Grabovoy

Determining a sufficient sample size based on the a posteriori distribution of model parameters Proceedings of the 66th MIPT All-Russian Scientific Conference

2. D. Dorin, N. Kiselev, A. Grabovoy

Spatial and temporal methods of time series analysis

Proceedings of the 66th MIPT All-Russian Scientific Conference

POSTER SESSIONS

October 21, 2024

Spatio-Temporal fMRI Analysis in Visual Stimuli Decoding: Linear Model Forecasting & Voxel Weighing

Neuroinformatics 2024

TALKS

o April 6, 2024

Determining a sufficient sample size based on the a posteriori distribution of model parameters 66th MIPT All-Russian Scientific Conference

TEACHING

Diffusion Models SBER University

Lecturer

Nov 2024 – Present

- Implementation details. DDIM, noise schedulers, guidance overexposure, noise offset, multiple text encoders, transformer-based diffusion models, MM-DiT.
- Video diffusion models. Deforum, AnimateDiff, MotionLora, StableVideo, CogVideoX.

Deep Learning

Moscow Institute of Physics and Technology

Lecturer Sep 2024 – Present

- O Neural network optimization, regularization: lecture, seminar
- Weights initialization, normalization, CNN: lecture, seminar

PROJECTS

Just Relax It — Discrete Variables Relaxation

A cutting-edge Python library designed to streamline the optimization of discrete probability distributions in neural networks, offering a suite of advanced relaxation techniques compatible with PyTorch.

- Models of epidemic spread, in particular COVID-19 as a model of stochastic chemical kinetics
 Various approaches to modeling the spread of epidemics, differential equations and Markov processes
- Optimization methods for quadratic problems with large dimensionality
 Comparison of different methods of solving high-dimensional linear regression problems
- Intelligent Presentation Generator
 Application for generating presentations based on text files using topic modeling

ACHIEVEMENTS

o Fall 2024-2025:

- K.V. Rudakov scientific academic scholarship for research activities in the field of applied mathematics
- Personal scholarship for contributions to the development of numerical optimization methods
- Increased State Academic Scholarship for 4 year bachelor and master students at MIPT

O Spring 2023-2024:

- Personal scholarship for contributions to the development of numerical optimization methods

o Fall 2023-2024:

- K.V. Rudakov scientific academic scholarship for research activities in the field of applied mathematics
- Personal scholarship for contributions to the development of numerical optimization methods

o 2020-2023:

- Abramov scholarship for 1-3 year bachelor students with the best grades at MIPT

CERTIFICATIONS

Statistics for data analysis

Coursera, Issued Jan 2022, Credential ID KAQRGNCQJ8AH

Unsupervised learning

Coursera, Issued Jan 2022, Credential ID 3CTYTEFT48FM

Supervised learning

Coursera, Issued Jan 2022, Credential ID 2ZBSN8L7EAVV

Mathematics and Python

Coursera, Issued Oct 2021, Credential ID CSTTGDM8RF2V

SKILLS

- o DL: PyTorch, Huggingface, Accelerate, Multi GPU training: DDP/FSDP, W&B, TensorBoard
- o ML: NumPy, SciPy, Pandas, NetworkX, Scikit-learn, LightGBM, CatBoost
- OS: macOS, Linux, Windows
- o **Misc.:** Git, Bash, LAT_EX
- o Soft Skills: responsible, organized, critical thinker, flexible, communicative, team player, patient

LANGUAGES

- o Russian (Native)
- English (Advanced)

INTERESTS

- Gym Guitar