Nikita Kiselev

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Data Scientist, Optimization Researcher

WORK EXPERIENCE

Sber AI

Research Intern — *Jun 2024 – Present*

Research work on instructed image editing for the Kandinsky model:
- Implemented and trained a model for re-contextualization by human face (Kandinsky 3 + IP Adapter + PhotoMakerV2)
- Collected a dataset on the movement of objects (LLaVa-Next + Grounding DINO + SAM + Alpha-CLIP-T + SDXL inpainting + SinSR)
- Created a module for calculating image editing metrics (LPIPS, DINO, CLIP-I, CLIP-T, CLIP-D, Alpha-CLIP-T)

Laboratory of Mathematical Methods of Optimization

Technician — *Oct 2023 – Apr 2024*

Research work in the field of optimization:
- Decentralized optimization with coupled constraints

PUBLICATIONS

1. D. Yarmoshik, D. Kovalev, A. Rogozin, N. Kiselev, D. Dorin, A. Gasnikov. Decentralized Optimization with Coupled Constraints. // Submitted to the **NeurIPS 2024** conference with average rating 5.5.
2. N. Kiselev, A. Grabovoy. Unraveling the Hessian: A Key to Smooth Convergence in Loss Function Landscapes. // Submitted to the AI Journey 2024 conference.
3. N. Kiselev, A. Grabovoy. Sample Size Determination: Posterior Distributions Proximity. // Submitted to the Computational Management Science journal.
4. D. Dorin, N. Kiselev, A. Grabovoy. Forecasting fMRI Images From Video Sequences: Linear Model Analysis. // Submitted to the Health Information Science and Systems journal.

TALKS

- April 6, 2024. Determining a sufficient sample size based on the a posteriori distribution of model parameters. // 66th MIPT All-Russian Scientific Conference.

ACHIEVEMENTS

- **Spring 2023-2024:** 3rd degree personal scholarship for contributions to the development of numerical optimization methods
- **Fall 2023-2024:** K.V. Rudakov scientific academic scholarship for research activities in the field of applied mathematics
- **Fall 2023-2024:** 3rd degree personal scholarship for contributions to the development of numerical optimization methods
- **2020-2023:** Abramov scholarship for 1-3 year bachelor students with the best grades at MIPT

SUMMARY

Aspiring researcher 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.

SKILLS

DL	PyTorch, TensorBoard, Huggingface
ML	NumPy, SciPy, Pandas
OS	macOS, Windows
Misc.	LaTeX
Soft Skills	Responsibility, Dedication

EDUCATION

MIPT — **Moscow, Russia**
MSc in Computer Science
Sep 2024 – Present

MIPT — **Moscow, Russia**
BSc in Applied Mathematics and Physics
Sep 2020 – Jul 2024
- Thesis:
  Bayesian Sample Size Estimation
- Advisor:
  Andrey Grabovoy
- GPA: 4.88/5 (with honours)

LANGUAGES

- Russian (Native)
- English (Advanced)

INTERESTS

- Gym
- Guitar

Last updated on September 2, 2024