Dorin Daniil

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SUMMARY

Aspiring researcher in the field of deep learning, machine learning, and optimization, with a strong focus on computer vision, including VLMs, image retrieval and image matching. Additionally, experience in applying computer vision techniques in the domain of neurobiology, specifically in fMRI-EEG decoding. Highly motivated for productive work and learning, backed by a substantial theoretical foundation and mathematical background.

EDUCATION

Moscow Institute of Physics and Technology — **Moscow, Russia**
PhD in Artificial Intelligence and Machine Learning — *Sep 2026 – Present*

Moscow Institute of Physics and Technology — **Moscow, Russia**
MSc in Computer Science — *Sep 2024 – Jul 2026*

Moscow Institute of Physics and Technology — **Moscow, Russia**
BSc in Applied Mathematics and Physics — *Sep 2020 – Jul 2024*

- Thesis: Spatial-temporal characteristics in the time series decoding
- Scientific advisor: Grabovoy Andrey
- GPA – **4.88/5**, **8.83/10**

WORK EXPERIENCE

Laboratory of Mathematical Methods of Optimization, MIPT — **Moscow, Russia**
Technician — *Oct 2023 – Oct 2024*

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

Antiplagiat — **Moscow, Russia**
Senior Researcher-Developer — *Nov 2024 – Present*

- Research work in the field of computer vision
- Image retrieval, Image matching, Contrastive learning
- Development of an image search system for plagiarism detection
- Development of a machine generated image detection model
- Developed a VLM-based model for evidence-based image matching
- Development of a handwritten text recognition (HTR) model

PUBLICATIONS

Published Papers

1. *Dorin D., Kiselev N., Grabovoy A., Strijov V.*
   Forecasting fMRI Images From Video Sequences: Linear Model Analysis
   Health Information Science and Systems. – 2024. **Q1**
   doi.org/10.1007/s13755-024-00315-5
2. *Yarmoshik D., Rogozin A., Kiselev N., Dorin D. et al.*
   Decentralized Optimization with Coupled Constraints
   ICLR 2025 conference, **A***
3. *Dorin D., Grabovoy A., Strijov V.*
   Enhancing fMRI Data Decoding with Spatiotemporal Characteristics in Limited Dataset

Doklady Mathematics. – 2025. **Q2**

4. *Dorin D., Varlamova K., Grabovoy A.*
   Pairwise Image Matching for Plagiarism Detection
   Doklady Mathematics. – 2025. **Q2**
5. *Varlamova K., Dorin D., Grabovoy A.*
   Beyond Familiar Domains: Investigating the Generalization Power of Machine-Generated Image Detectors
   Doklady Mathematics. – 2025. **Q2**
6. *Dorin D. et al.*
   Decoding visual information from neural signals: image reconstruction based on joint functional magnetic resonance imaging and electroencephalography analysis
   Informatika i ee Primeneniya, 2025, **Q3**

Review or Revision Process

1. *German A., Dorin D., Grabovoy A.*
   Approximation fMRI data from the audio time series
   Planned to Submit to Journal
2. *Dorin D., Grabovoy A.*
   Evidential Image Matching: Predicting Transformation Sequences to Derive One Image from Another
   Computer Vision and Image Understanding, 2026, **Q1**

Conference Theses

1. *D. Dorin, N. Kiselev, A. Grabovoy*
   Spatial and temporal methods of time series analysis
   Proceedings of the 66th MIPT All-Russian Scientific Conference
2. *D. Dorin, A. Grabovoy*
   Enhancing fMRI decoding under limited sampling conditions
   Proceedings of the 67th MIPT All-Russian Scientific Conference
3. *D. Dorin, N. Kiselev, A. Grabovoy*
   Decoding visual stimuli from multimodal brain signals
   Proceedings of the 22nd All-Russian Scientific Conference with International Participation MMRO
   doi.org/10.29003/m4729.978-5-317-07438-8
4. *D. Dorin, A. Grabovoy*
   Decoding visual information from brain signals based on spatiotemporal characteristics
   Proceedings of the 68th MIPT All-Russian Scientific Conference

TALKS

- 66th MIPT All-Russian Scientific Conference – April 6, 2024
  Spatial-temporal methods for time series analysis
- 67th MIPT All-Russian Scientific Conference – April 5, 2025
  Enhancing fMRI decoding under limited sampling conditions
- 22nd All-Russian Scientific Conference with International Participation MMRO – September 25, 2025
  Decoding visual stimuli from multimodal brain signals
- AI Journey – November 21, 2025
  Enhancing fMRI Data Decoding with Spatiotemporal Characteristics in Limited Dataset
- 68th MIPT All-Russian Scientific Conference – April 4, 2026
  Decoding visual information from brain signals based on spatiotemporal characteristics

POSTER SESSIONS

- October 21, 2024
  Spatio-Temporal fMRI Analysis in Visual Stimuli Decoding: Linear Model Forecasting & Voxel Weighing
  Neuroinformatics 2024
- November 21, 2025
  Enhancing fMRI Data Decoding with Spatiotemporal Characteristics in Limited Dataset
  AI Journey

TEACHING

My First Scientific Paper (m1p) — **Moscow Institute of Physics and Technology**
Lecturer & Scientific consultant — *Feb 2023 – Present*

Deep Learning — **Moscow Institute of Physics and Technology**
Lecturer & Seminarian — *Sep 2024 – Present*

- Computer vision. Classification. Object detection
- Semantic segmentation. Instance segmentation. Image Matching
- Multimodality. VLMs

PROJECTS

- **Predicting the demand for scooters in the Sochi area.** Project within the framework of the course «Mathematical modeling of traffic flows».
- **Garage: Generative Augmentation Framework for Transforming Object Representations in Images.** Cutting-edge Python library designed for generative image augmentation.
- **HippoTrainer: Gradient-Based Hyperparameter Optimization.** A PyTorch-compatible library for gradient-based hyperparameter optimization, implementing cutting-edge algorithms that leverage automatic differentiation to efficiently tune hyperparameters.
- **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.
- **Robust Optimization in Transport Networks.** Solving the problem of optimizing transport networks in the robustness paradigm.
- **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
- **Epidemic-Spread-Models**
  Various approaches to modeling the spread of epidemics, including the use of differential equations and Markov processes, have been applied to understand the dynamics of COVID-19.

SCHOLARSHIPS, HONORS AND AWARDS

- **Spring 2025-2026**:
  - 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
  - G.I. Marchuk Scholarship for students of the Moscow Institute of Physics and Technology
  - Scholarship of the Government of the Russian Federation in priority areas
- **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
- **Spring 2023-2024**:
  - Personal scholarship for contributions to the development of numerical optimization methods
  - Increased State Academic Scholarship for 4 year bachelor and master students at MIPT
- **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
- **2020-2023**:
  - Abramov scholarship for 1-3 year bachelor students with the best grades at MIPT

CERTIFICATIONS

- **Supervised learning**
  Coursera, Issued Jan 2022, Credential ID QTU7GNR3NAGX
- **Mathematics and Python**
  Coursera, Issued Nov 2021, Credential ID J6UE3LGDUDLR

SKILLS

- **DL**: PyTorch, Huggingface, Accelerate, W&B, TensorBoard
- **ML**: NumPy, SciPy, Pandas, NetworkX, Scikit-learn, LightGBM, CatBoost
- **Misc.**: Git, Bash, LaTeX, JIRA, Jenkins, k8s
- **Maths:** Optimization, Algorithms, Probability, Statistics, Calculus, Linear Algebra
- **Programming**: Python, C
- **OS**: Linux, Windows
- **Soft Skills**: responsible, organized, critical thinker, flexible, communicative, team player, patient

LANGUAGE

- **Russian** (Native)
- **English** (Advanced)

INTERESTS

- Gym
- Swimming

Last updated on September 20, 2026