



Alexey Gorbatovski

ML Researcher

Reliable employee seeking NLP Researcher position. Looking forward interesting research experience, publication of articles and work in an interesting, motivated team.

Contact



Saint-Petersburg



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github.com/Myashka

Skills

- Natural Language Processing;
- Generative Models (LDM, GANs, NFs, Variational Autoencoders, Autoregressive models);
- Reinforcement learning;
- Time Series forecasting;
- Computer vision, retrieval metric learning;

Languages

- Russian – Native
- English – C1

Soft Skills

- Teamwork
- Presentation skills
- Time management
- Critical thinking

2024-01 –
Current

NLP Researcher at TLab

MIPT TLab, Moscow

- Engaging in the alignment research track, seeking new methods to enhance the safety and quality of NLP models
- Writing scientific papers
- Preparing research proposals
- Writing pipelines, setting up experiments, and evaluating outcomes

2023-07 –
2023-08

NLP Intern at SRC

Saint-Petersburg Research Center (SRC)

- RLHF Llama 7B training
- Retrieval Reward Model training
- Pipeline setup

2023-06 –
Current

ML Engineer at Startup group

Saint-Petersburg, NDA, part time

2022-10 –
2023-04

MLE Laboratory Assistant

NCCR ITMO University, Saint-Petersburg

- Search and compilation of a dataset for segmentation and identification tasks
- R&D to improve segmentation results
- Setting up experiments for the identification problem
- Developed time series forecasting pipeline
- Developed tools for image analysis, preprocessing and generation for high resolution image segmentation

Education

2023-09 –
Current

Master of Deep learning and generative artificial intelligence

ITMO University - Saint-Petersburg

2019-09 –
2023-07

Bachelor of Infocommunication Technologies: Applied Programming

ITMO University - Saint-Petersburg

- GPA: 4.97/5.00
- Head of the study group

Publications

[Linear Transformers with Learnable Kernel Functions are Better In-Context](#)

[Models](#) [Pre-print] (Yaroslav Aksenov, Nikita Balagansky, Sofia Maria Lo Cicero Vaina, Boris Shaposhnikov, Alexey Gorbatovski, Daniil Gavrilov)

- We introduced a straightforward enhancement to the Base architecture by incorporating learnable kernel functions into the linear transformer, which effectively boosted its In-Context Capabilities.

[Reinforcement Learning for Question Answering in Programming domain using Public Community Scoring as a Human Feedback](#) [AAMAS 2024] (Alexey

Gorbatovski, Sergey Kovalchuk)

- Improved a language model's performance in programming forums using human feedback, demonstrating that smaller models can match the quality of larger ones
- Exposed the limitations of standard evaluation metrics in specialized domains, emphasizing the need for tailored, hands-on evaluation approaches

[Bayesian Networks for Named Entity Prediction in Programming Community Question Answering](#) [ICCS 2023] (Alexey Gorbatovski, Sergey Kovalchuk)

- Developed a Bayesian network-based NLP approach to better predict and analyze context in platforms like Stack Overflow

Projects

Diploma “Development of methods for improving the quality of generative models to answer specialized questions in the field of programming”

December - May 2023

- Python QA collecting data;
- STF pipeline building;
- 8-core TPU training;
- Reward-model training;
- PPO pipeline for RLHF at CQA domain;
- Prompt searching for QA;
- Bayesian Networks for Named Entity Prediction in Programming Community Question Answering (A conf.);

ChatGPT Hackathon 3rd place

March 2023

- Developed personal English trainer as TG bot;
- Strong prompts development;
- Presenting;

IV ICT Hack

May 2022

- Made data mining;
- Tested baselines;
- Created NPL models for multiclass classification;
- BERT fine-tuning;
- Hyperparameters optimization;
- Created presentation and project protection;

Applied AI Challenge

May 2022

- Time series forecasting;
- Traditional time series analysis;
- Autoregression CatBoost model;
- Presentation and defense of research;

Fake news Detection – student project

March – June 2021

- NLP model training for binary classification;
- Image2Text recognition;

Certifications

2022-09	School at 11 th International Young Scientists Conference in Computational Science
2022-08	Open Machine Learning advanced course by MIPT (self-studied)
2022-02	Open Machine Learning base course by MIPT (self-studied)
2022-07	Algorithms by CSC
2022-09	Basics of statistics by Bioinformatics Institute
2021-07	Neural Networks and Deep learning by DeepLearning.AI
2020-04	Image Processing by HSE
2022-08	Interactive SQL simulator
2021-08	OOP and design patterns in Python by Mail.ru and MIPT
2021-07	Diving into Python by Mail.ru and MIPT
2021-07	Python programming by Bioinformatics Institute
2022-06	Probability theory by CSC
2021-08	Mathematics and Python for DA by Yandex and MIPT

Interests

Ex-leader of basketball team
Philosophy