Ivan Anokhin

PhD Student

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Education

08.2023 – now PhD in Computer Science, Mila, University of Montreal, Advisor: Irina Rish, Topic: Scalable Reinforcement Learning Systems.

2017 – 2019 Master in Data Science, Skolkovo Institute of Science and Technology, Advisor: Dmitry Yarotsky, Thesis: Loss Surface of a Deep Neural Network.

2012 – 2016 BSc in Applied Mathematics and Computer Science, St. Petersburg State University.

Experience

08.2023–now PhD, **Mila**.

Currently exploring adversarial-data training for LLM reasoning using a teacher–student framework; work in progress.
Explored parallel layer-wise computations for forward and backward passes to improve latency for on-device learning and inference (streaming RL). Led a project on parallel layer-wise inference, proposed a method to handle the associated delay, led experiments, theory, and the write-up; accepted to ICLR 2025. Co-led a bio-inspired credit-assignment method with delayed feedback (parallel layer-wise backward pass); originated the idea and led RL experiments; currently under submission. Contributed to a continual-RLHF benchmark project, benchmarked DPO/PPO and implemented evaluation metrics; published in an ICML 2025 workshop.

02.2023–09.2023 Research Assistant (remote), **Cambridge University**.

Worked on Model-Based Offline RL, contributed to planning project, published in NeurIPS2023.

06.2021–11.2022 Research Scientist, **Yandex**.

Developed a framework to learn image representation object-wise for unsupervised object detection. Led a team of two students. Worked on an SSL method to learn representations from long videos (e.g. EPIC Kitchen).

03.2020–01.2022 Junior Research Scientist, **Skoltech**.

Investigated properties of the ensemble methods with reduced memory consumption on inference and high accuracy (e.g. BatchEnsemble). Published in AISTATS2022. Investigated loss surface of neural networks. Published in ICML2020.

04.2019–06.2021 Deep Learning Engineer, **Samsung AI Center**.

Developed a generator architecture for GAN without any pixel-interaction after style(noise) conditioning. Published in CVPR2021. Developed generative image-to-image model with style (day-time of an image) and content (landscape) disentanglement. Published in CVPR2020.
Worked on robot navigation in an indoor environment. Added physics into the environment simulator; debugged a robot in a real environment.

12.2016–08.2018 Lead Analyst (ML), **Tinkoff Bank**.

Developed, implemented and tuned Slot-filling and Information Retrival transformer-based neural network architectures for the chatbot. Slot-filling and IR models were deployed.

Technical skills

Proficient in: Python, Pytorch, git, Latex
Familiar with: Keras, SQL, Tensorflow, Java, Matlab, C++

Service and Teaching

Reviewer ICML21-22, ICLR22-23, NEURIPS22-25

Lecturer Invited lecturer on deep learning, GoTo summer camp for high-schoolers, 2020 & 2021 multi-day sessions.

Publications

ICLR 2026 submission **Learning From the Past with Cascading Eligibility Traces.**
Tokiniaina Raharison Ralambomihanta*, **Ivan Anokhin***, Roman Pogodin*, Samira Ebrahimi Kahou, Jonathan Cornford, Blake Aaron Richards
Paper, Code

ICML2025 workshop **AIF-GEN: Open-Source Platform and Synthetic Dataset Suite for Lifelong Reinforcement Learning on Large Language Models.**
Jacob Chmura*, Shahrad Mohammadzadeh*, **Ivan Anokhin**, Jacob-Junqi Tian, Mandana Samiei, Taz Scott-Talib, Irina Rish, Doina Precup, Reihaneh Rabbany, Nishanth Anand
Paper, Code

ICLR 2025 **Handling Delay in Real-Time Reinforcement Learning.**
Ivan Anokhin, Rishav Rishav, Matthew Riemer, Stephen Chung, Irina Rish, Samira Ebrahimi Kahou
Paper, Code, Blog post

ICML 2024 workshop **Handling Delay in Reinforcement Learning Caused by Parallel Computations of Neurons.**
Ivan Anokhin, Rishav Rishav, Stephen Chung, Irina Rish, Samira Ebrahimi Kahou

NeurIPS 2023 **Thinker: Learning to Plan and Act.**
Stephen Chung, **Ivan Anokhin**, David Krueger.
Project Page

AISTATS 2022 **Embedded Ensembles: Infinite Width Limit and Operating Regimes.**
Maksim Velikanov, Roman Kail, **Ivan Anokhin**, Roman Vashurin, Maxim Panov, Alexey Zaytsev, Dmitry Yarotsky.
Paper

CVPR 2021 **Image Generators with Conditionally-Independent Pixel Synthesis.**
Ivan Anokhin, Kirill Demochkin, Taras Khakhulin, Gleb Sterkin, Victor Lempitsky, Denis Korzhenkov
Paper Code

CVPR 2020 **High-resolution daytime translation without domain labels.**
Ivan Anokhin*, Pavel Solovev*, Denis Korzhenkov*, Alexey Kharlamov*, Taras Khakhulin, Aleksei Silvestrov, Sergey Nikolenko, Victor Lempitsky, Gleb Sterkin
Project page

ICML 2020 **Low-loss connection of weight vectors: distribution-based approaches.**
Ivan Anokhin and Dmitry Yarotskyy
Paper, Code