

Dmitrii I. Krylov
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EDUCATION

University of California, Irvine (UCI) <i>PhD in Computer Science (en route MSc)</i>	September 2021 – January 2026 <i>Irvine</i>
Skolkovo Institute of Science and Technology (Skoltech) <i>MSc in Data Science, Summa cum laude</i>	September 2018 – August 2020 <i>Moscow</i>
Moscow Engineering Physics Institute (MEPhI) <i>BSc in Information Systems and Technologies</i>	September 2014 – August 2018 <i>Moscow</i>

RESEARCH EXPERIENCE

Graduate Researcher at IndyLab, <i>UC Irvine,</i>	Jan 2022 – Current <i>Irvine,</i>
<ul style="list-style-type: none">Designed a memory-efficient DNN training algorithm (Moonwalk) that reduced GPU memory usage by 50%, enabling larger-batch training and faster convergence.Led an RL project, mentoring two undergraduate students in hierarchical imitation learning.Published two first-author papers (ICML submission under review) and collaborated on multiple cross-disciplinary research projects in deep learning and efficient ML.	
ML Engineer Intern at Stripe, <i>Stripe - Merchant Intelligence,</i>	June 2025 – Sep 2025 <i>New York, NY</i>
<ul style="list-style-type: none">Built and deployed LLM-powered agents for merchant intelligence, with applications in Smart Dispute Resolution and merchant defense.Developed an LLM + XGBoost hybrid system to predict dispute outcomes, improving accuracy of win/loss forecasts for merchants.	
ML Research Intern at Duolingo, <i>Duolingo,</i>	June 2024 – Sep 2024 <i>Pittsburgh,</i>
<ul style="list-style-type: none">Evaluated sequence models (Transformers, XLSTM, Mamba) on a dataset of 10M+ users for long-term knowledge tracing.Optimized training efficiency, aiming to reduce computational cost by 10× through time-sequence batching and efficient memory management.Developed a synthetic dataset for tracking long-term dependencies and introduce a novel evaluation metric for measuring model performance over extended time horizons.	
ML Research Intern at Alpha Profit Group, <i>Alpha Profit Group,</i>	June 2023 – Aug 2023 <i>Remote,</i>
<ul style="list-style-type: none">Explored reinforcement learning (RL) for portfolio optimization, designing and training custom Gym environments for backtesting trading strategies.Optimized an RL-based algorithm for high-frequency trading, reducing execution latency and increasing strategy stability.Developed a workflow for hypothesis-driven strategy testing, streamlining evaluation and parameter tuning.	
Graduate Researcher at Computational Imaging Group, <i>Skolkovo Institute of Science and Technology,</i>	Jan 2019 – Aug 2020 <i>Moscow,</i>
<ul style="list-style-type: none">Built ML models in C++ and Python for simulating oscillating networks in deep brain stimulation applications.Ran large-scale experiments on a Skoltech high-performance computing cluster, conducting over 1,000 RL simulations for algorithm benchmarking.	
ML Research Intern at NVIDIA, <i>NVIDIA,</i>	June 2019 – Aug 2019 <i>Moscow,</i>
<ul style="list-style-type: none">Designed and trained deep learning models to predict cloud gaming stream quality for GeForce Now, improving prediction accuracy by 15%.	

- **Developed** multi-GPU training pipelines using **PyTorch and Horovod**, enabling efficient distributed training across **4+ GPUs**.
- **Automated** the data collection and retraining workflow, reducing **manual intervention** and enhancing model scalability.

Undergraduate ML Researcher at The Kurchatov Institute,

May 2017 – Aug 2018

The Kurchatov Institute,

Moscow,

- **Applied** machine learning to analyze **human gaze movement patterns**, performing **clustering and exploratory data analysis (EDA)** on eye-tracking data.
- **Developed** custom **C++ and Python** algorithms (SURF-based and proprietary) for **aggregating gaze patterns** across multiple sessions.
- **Collected and processed** real-time eye-tracking data, extracting key insights for cognitive science research.

PUBLICATIONS

Publications

1. Dmitrii Krylov Dmitry V Dylov Maksim Bobrin, Nazar Buzun, Align your intents: Offline imitation learning via optimal transport, in *In review NIPS 2025*.
2. Roy Fox Dmitrii Krylov, Armin Karamzade, Moonwalk: Inverse-forward differentiation, in *In review NIPS 2025*.
3. Dmitrii Krylov, Learning to design analog circuits to meet threshold specifications, in *International Conference on Machine Learning, ICML-23*.
4. Dmitrii Krylov, Remi Tachet des Combes, Romain Laroche, Michael Rosenblum, and Dmitry V. Dylov, Reinforcement learning framework for deep brain stimulation study, in *International Joint Conference on Artificial Intelligence, IJCAI-20*, pp. 2847–2854, <https://doi.org/10.24963/ijcai.2020/39> (2020), <https://doi.org/10.24963/ijcai.2020/394>, .
5. Dmitrii Krylov, Dmitry V. Dylov, and Michael Rosenblum, Reinforcement learning for suppression of collective activity in oscillatory ensembles, *Chaos: An Interdisciplinary Journal of Nonlinear Science* **30**, 033126 (2020), <https://doi.org/10.1063/1.5128909>, (2020) .
6. Dmitrii Krylov and Alexei V. Samsonovich, Designing an emotionally-intelligent assistant of a virtual dance creator, in *Biologically Inspired Cognitive Architectures 2018* (Springer International Publishing) pp. 197–202, https://doi.org/10.1007/978-3-319-99316-4_26, (2018).

SKILLS

Programming: Python, C++, C, SQL, Bash, MATLAB

Machine Learning: Deep Learning, Reinforcement Learning, Imitation Learning, Knowledge Tracing, Large-Scale ML

Frameworks & Libraries: PyTorch, TensorFlow, JAX, scikit-learn, XGBoost, CatBoost, Horovod, Gym, Hugging Face, OpenCV

Cluster Computing: SLURM, HPC clusters, multi-GPU distributed training, Horovod, DDP (Distributed Data Parallel)

Cloud & DevOps: Docker, Kubernetes, Git, NGINX, AWS EC2, Google Cloud, Ray

LLMs: Training and fine-tuning XLSTM, Mamba, Transformer-based models, LLaMA, GPT-based architectures

SELECTED HONORS AND AWARDS

Jane Street / GPUMode (50000\$ hackathon 1st place)	Sep 2025
HPI Fellowship	Jan 2024 - Jan 2026
Research Grant Funding	Jan 2021
Skoltech Excellence Scholarship	March 2019 - Aug 2020
MEPhI Excellence Scholarship	Sep 2014
Federal Excellence Scholarship	July 2014
McKinsey Data Science hackathon, 2nd place	Sep 2019
Russian AI cup (Artificial Intelligence International Championship) Semi-Finalist	Nov 2020