ALEXANDER NIKULIN

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EXPERIENCE

Tinkoff   **Sep 2022 – present**
Research Scientist   *Saint Petersburg, Russia*

- Participated at 5 workshop and 4 full papers accepted to the A* conferences (ICML, ICLR, NeurIPS).
- First author paper on SAC-RND algorithm (accepted to the ICML 2023) was covered by all major Russian news media.
- Main developer and maintainer of the CORL library, which currently has over 800 stars on the GitHub and has become one of the most popular libraries for offline reinforcement learning. Technical paper describing the main results and philosophy of the library has been accepted at NeurIPS 2023.
- Actively attended meetups and conferences, presenting research accomplishments. Presented CORL library at PyCon Russia 2023 (rated top 8 out of 25+ by the attendees). Presented CORL & SAC-RND at the meetups organized by Tinkoff. Gave over 8 talks on my research to university students from three cities (Moscow, St Petersburg, Kazan). Organized several internal research reading clubs for colleagues. Gave several interviews about my work for Tinkoff Magazine, vc.ru and others.

Tinkoff   **January 2022 – Sep 2022**
Research Scientist Intern   *Saint Petersburg, Russia*

- Conducted the research on the offline reinforcement leaning under the supervision of Vladislav Kurenkov. Publicly presented the results of the internship at the Innopolis University.
- Proposed and verified more than 5 research proposals during the internship. One of them was accepted to the 3rd Offline Reinforcement Learning Workshop at NeurIPS 2022.

JetBrains Research   **March 2021 – December 2021**
Research Assistant   *Saint Petersburg, Russia*

- Worked on a **Improving Upside Down RL** coursework under supervision of Oleg Svidchenko. Developed most of the infrastructure for conducting experiments and training in PyTorch. Tested various modifications of the Soft Actor-Critic algorithm in the Upside Down RL setting.
- Participated in the MineRL 2021 competition, taking 5th place as well as receiving a $200 award for the community support nomination. As a result, our approach was described in the paper accepted to NeurIPS 2021.

Hamburg University of Technology   **March 2021 – Sep 2021**
Research Assistant   *Saint Petersburg, Russia*

- Developed most of the infrastructure for conducting experiments and training in PyTorch. Designed and performed the main experiments. Achieved an average threefold improvement over baselines on a variety of metrics. Results were published in the Photonics and Nanostructures journal.

VK   **July 2019 – Sep 2019**
Machine Learning Engineer Intern   *Saint Petersburg, Russia*

- Wrote a pipeline for the training of graph embeddings using ALS (on millions of nodes) and top-n recommendations of the most similar users using distributed kNN search. The results were tested with an A/B test.
- For the correct sampling of the graph and the tuning of the hyperparameters, also wrote my own implementation of the Metropolis-Hastings random walk on pyspark.

SELECTED PUBLICATIONS

Anti-Exploration by Random Network Distillation   **ICML, 2023**
Alexander Nikulin, Vladislav Kurenkov, Denis Tarasov, Sergey Kolesnikov *Poster*

Revisiting the Minimalist Approach to Offline Reinforcement Learning **NeurIPS, 2023**
Denis Tarasov, Vladislav Kurenkov, Alexander Nikulin, Sergey Kolesnikov *Poster*

CORL: Research-oriented Deep Offline Reinforcement Learning Library   **NeurIPS, 2023**
Denis Tarasov, Alexander Nikulin, Dmitry Akimov, Vladislav Kurenkov, Sergey Kolesnikov *Poster*

Katakomba: Tools and Benchmarks for Data-Driven NetHack   **NeurIPS, 2023**
Vladislav Kurenkov, Alexander Nikulin, Denis Tarasov, Sergey Kolesnikov *Poster*

Q-Ensemble for Offline RL: Don't Scale the Ensemble, Scale the Batch Size **NeurIPS, 2022**
Alexander Nikulin, Vladislav Kurenkov, Denis Tarasov, Dmitry Akimov, Sergey Kolesnikov *Workshop*

EDUCATION

Moscow Institute of Physics and Technology   **Sep 2023 – present**
PhD in Computer Science   *Moscow, Russia*

National Research University Higher School of Economics   **Sep 2020 – May 2023**
Master of Science in Computer Science   *Saint Petersburg, Russia*

National Research University Higher School of Economics   **Sep 2016 – May 2020**
Bachelor of Science in Sociology   *Saint Petersburg, Russia*