

DENIS TARASOV

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EDUCATION

Jacobs University Bremen, Bremen, Germany

Bachelor in Computer Science

September 2022 – June 2023

Higher School of Economics, Saint Petersburg, Russia

Bachelor in Applied Mathematics and Computer Science, GPA 9.29/10

September 2019 – September 2022

EXPERIENCE

Machine Learning Engineer intern at Meta, London, UK

July 2022 – Present

Working as a part of the AI Applied Research Relevance team. *Skills*: Python, PyTorch, Hack, Presto.

Research intern at Tinkoff AI, Remote

October 2021 – July 2022

Research on applying pre-trained Language Model for solving text-free Offline Reinforcement Learning problems. Published short paper at ICLR 2022 and ACL 2022 workshops. *Skills*: Python, PyTorch, NLP, Reinforcement Learning.

Machine Learning Engineer intern at Yandex, Saint Petersburg, Russia

July 2021 – October 2021

Researched neural networks distributed learning with slow network. Discovered weakness and proposed solution for existing implementations of 1-bit Adam and 1-bit LAMB to prevent divergence. Adapted 1-bit optimizers for production needs. Published results at SEIM 2022 conference. *Skills*: Python, PyTorch.

Research intern at JetBrains Research, Saint Petersburg, Russia

July 2020 – August 2020

Research work on predicting of antibodies CDR-H3 loops 3D structures from amino acid sequences with end-to-end Deep Learning approach. Recollected and reprocessed data because original data was incorrect. Modified baseline to make predicted structures physically valid. Applied transfer learning to protein folding network and beaten baseline by 20%. Afterwards results of the project were published at [Machine Learning in Structural Biology Workshop, NeurIPS 2021](#) (my data collection with preprocessing, visualization and model modification present in the paper repository). *Skills*: Python, PyTorch, TensorFlow 1.

PUBLICATIONS AND PREPRINTS

Clean Offline RL.

Proceeding [NeurIPS 2022 Offline RL Workshop](#)

Clean single-file implementations of SOTA Offline RL algorithms and benchmarking.

Prompts and Pre-Trained Language Models for Offline Reinforcement Learning.

ICLR 2022 Workshop GPL

Using pre-trained Language Models for boosting performance of Offline RL algorithms where environments does not contain text.

Fixing 1-bit Adam and 1-bit LAMB algorithms..

SEIM 2022

Paper about fixing 1-bit optimizers and proposing new aspects that should be considered when new SGD algorithms are developed.

Predicting ethnicity with data on personal names in Russia.

Preprint 2021

Preprint about ethnic names classification. My part is described in sections 3, 4 and 5.

SIDE PROJECTS

Multi-agent hide and seek

March 2021 – June 2021

Project at JetBrains Research. The goal of project was to use Unity Engine to reproduce results from "[Emergent Tool Use From Multi-Agent Autocurricula](#)" paper by OpenAI where reinforcement learning agents learned to use different tools to maximize their reward while playing competitive game. One of the environments was fully replicated but desired behavior was obtained only in simplified setting because more complicated setups require vast computations. *Skills*: C#, Unity, Unity ML agents.

Ethnic classification of names and surnames

October 2020 – April 2021

Research project at [Yandex School of Data Analysis](#) on Russian names ethnic classification problem. The goal was to create machine learning algorithm which predicts person's ethnicity by name. My job was to find the best fitting algorithm for the this problem. *Skills*: Python, PyTorch, scikit-learn, pandas, XGBoost, CatBoost, FastText.

HONORS AND AWARDS

5th All-Russian Student Olympiad "Ya – professional"

2022

Winner in the AI track among undergraduate students, 17th place out of 2000+ participants

"Metric Learning for Facial Descriptors" hackathon by HUAWEI Russian Research Institute

at [5th RAAI Summer School](#)

July 2019

2nd place out of 29 participants