Mark Rofin

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Education

Higher School of Economics Moscow, Russia
Bachelor in Applied Mathematics and Computer Science *Sep 2019 - Expected Jun 2023*
Major: Machine Learning and Applications GPA: 8.92/10 (Top 4%)

- **Relevant Coursework**: Introduction to Linguistics, Machine Learning, Large-Scale Machine Learning, Bayesian Methods in Machine Learning, Deep Learning, Deep Learning for Audio, Efficient Deep Learning Systems, Reinforcement Learning

Publications

- Rofin, Mark, et al. "Vote'n'Rank: Revision of Benchmarking with Social Choice Theory." arXiv preprint arXiv:2210.05769 (2022). To appear at EACL 2023. URL
- Rofin, Mark, Nikita Balagansky, and Daniil Gavrilov. "Linear Interpolation In Parameter Space is Good Enough for Fine-Tuned Language Models." arXiv preprint arXiv:2211.12092 (2022). URL

Experience

- **Yandex** Remote
  Machine Learning Engineer *Nov 2022 - Present*
  - Working on application of large language models for ad generation.
  - Proposed and implemented a new generation pipeline, increasing diversity and fluency of outputs.
  - Tuned pretrained models to compute automated metrics. This allowed to filter outputs of a text generator and improve resulting quality.

- **Tinkoff Lab** Moscow, Russia
  Research Intern *Jun 2022 - Oct 2022*
  - Completed a research project on parameter interpolation for Natural Language Generation.
  - Implemented modern methods of efficient language model tuning, such as Prefix Tuning, Adapters, LoRA, and BitFit.
  - Worked with high-performance computing, utilizing a cluster of 32 GPUs to launch experiments needed for the research project.

- **Laboratory for Models and Methods of Computational Pragmatics at HSE University** Moscow, Russia
  Research Assistant *Oct 2021 - Jun 2022*
  - Developed a method of augmentation for task-oriented dialogue systems, boosting the accuracy of intent classification by 10%.
  - Implemented a benchmarking framework based on social choice theory and presented it in a paper accepted to EACL 2023.
  - Used PyTorch to reproduce State-of-the-Art papers in dialogue systems and few-shot learning.

- **Yandex** Moscow, Russia
  Machine Learning Intern *Feb 2021 - Jul 2021*
  - Used map-reduce and machine learning tools to improve models for targeted advertising, increasing profit by 4%.
  - Developed a system for validating the quality of a Catboost predictor on historical data, making possible rapid hypothesis testing.
  - Carried out extensive A/B tests estimating the business metrics of new algorithms.

Programming Skills

- **Programming Languages**: Python, C++, SQL
- **Machine Learning & Deep Learning**: scikit-learn, PyTorch, HuggingFace Transformers, DeepSpeed, etc.
- **Tools**: Git, Bash, LaTeX, Linux, Docker, Weights & Biases, Hydra

Teaching

- **Teaching assistant** on the course «Programming and theory of algorithms» (2020-2021). Managed a group of 60 students and graded oral exams on machine learning.
- **Teaching assistant** on Research Seminar (present). Managing a group of 30 students.
- **Science curator** at Higher School of Economics, offering guidance to younger students and organizing lectures.

Other Activities

- **Prize winner** of 3 hackathons on machine learning, designing projects in Digital Humanities and Uplift Modeling in Retail.
- **Volunteer** at multiple Higher School of Economics events, including open days, competitions, and festivals.
- **Co-organizer** of a university reading club on machine learning and moderator of its weekly meetings. Arranged the discussion of more than 15 topics, including diffusion models and theoretic deep learning.
- **Speaker** at Science Slam in June 2022, presenting research on Natural Language Processing.
- **Participant** in The School of Science Journalism 2022 with a talk on deep learning for non-experts.