Aleksandr V. Petrov

Objective: Research Scientist/Applied Scientist role in the field of Recommender Systems, Information Retrieval, or Natural Language Processing

Email: firexel@gmail.com **Phone:** +447455908423

Residence: Glasgow, UK
Languages: English - professional; Russian - native; Spanish - intermediate

Publications: ACM WSDM [1], ACM RecSys [2, 5, 6], ACM Trans. Recomm. Syst [3]. GenIR@SIGIR[4], ACM, RecSys CARS [7], WSDM WebTour [8]
PC Member: RecSys, WWW, ECIR
Reviewer in Journals: TOIS, TKDD, Applied Soft Computing

Skills:

- Natural Language Processing
- Large Language Models
- Recommender Systems
- Information Retrieval
- Generative Models
- Deep Learning
- Reinforcement Learning
- Big data Pipelines
- Personalised online advertisement and RTB
- Track record of publishing in top-tier conferences

Experience in technologies

- PyTorch
- TensorFlow
- Spark
- Hadoop
- AWS

Awards & Honours

Best Paper Award; RecSys'23
Best Paper Award nominee; RecSys'22
Granted UK's Exceptional Talent Visa in digital technology; 2019

Education & Research

The University of Glasgow – PhD (Recommender Systems)

October 2021 – now (expected graduation in early 2025)

- PhD Supervisors: **Prof. Craig Macdonald** and **Prof. Iadh Ounis**.
- I focus on adapting Language Model architectures (such as GPT or BERT) to the sequential recommendation scenario.
- Published a number of scientific papers in top-tier conferences & journals on recommender systems, including RecSys, WSDM, TORS

Lomonosov Moscow State University – Specialist (master equivalent) – Computer Science

September 2006 – July 2011

- Thesis topic: "Multi-Profile Spam Detection System", excellent grade.

Work Experience

Amazon.com (Edinburgh, UK) – Senior Software Engineer; Applied Scientist

September 2017 – September 2021; July 2022 - October 2022

- I technically led various projects in recommender systems, search engine ranking, and personalised advertisement areas.
- I led a research project on identifying brand competitors based on user behaviour.
- I designed cloud infrastructure for ML-based user segmentation (Spark+PyTorch+AWS).

E-Contenta (St. Petersburg, Russia) – CTO

August 2013 (full-time from March 2016) – August 2017

I co-founded the startup. I have worked there part-time since 2013 and full-time since 2016.

- I built a white-label recommender system for media companies (video-on-demand platforms, music streaming, and news companies).

Data-Centric Alliance (Moscow, Russia) – Head of R&D

October 2013 – February 2016

- I built several algorithms for internet users' market segmentation.

Tinkoff Digital (Moscow, Russia) – Data Platform Team Leader

October 2012 – October 2013

- I built a platform for customer segmentation.

Mail.Ru Group (Moscow, Russia) – Research Engineer

April 2012 – October 2012

- I developed a “car enthusiasts” segment detection method for advertising targeting.

Yandex (Moscow, Russia*)* – Software Development Engineer

September 2009 - April 2012

- I participated in the re-launch of the car traffic monitoring system.

Selected Publications in High-Impact Conferences & Journals

[1] Petrov, A. and Macdonald, C., 2024, March**. RecJPQ: Training Large-Catalogue Sequential Recommenders.** In *Proceedings of the 17th ACM International Conference on Web Search and Data Mining, Mérida, Mexico.*

[2] Petrov, A. and Macdonald, C., 2023, September. **gSASRec: Reducing Overconfidence in Sequential Recommendation Trained with Negative Sampling**. In *Proceedings of the 17th ACM Conference on Recommender Systems*, *Singapore*. https://dl.acm.org/doi/10.1145/3604915.3608783 – **Best Paper Award Winner**

[3] Petrov, A. and Macdonald, C., 2023, September. RSS: **Effective and Efficient Training for Sequential Recommendation using Recency Sampling**. *ACM Trans. Recomm. Syst. https://doi.org/10.1145/3604436*

[4] Petrov, A., and Macdonald. C, 2023, July. **Generative Sequential Recommendation with GPTRec**. Presented at *the ACM SIGIR Conference on Research and Development in Information Retrieval - Workshop on Generative Information Retrieval, Taipei, Taiwan.*

https://www.researchgate.net/publication/371700176_Generative_Sequential_Recommendation_with_GPTRec

[5] Petrov, A. and Macdonald, C., 2022, September. **A Systematic Review and Replicability Study of BERT4Rec for Sequential Recommendation**. In *Proceedings of the 16th ACM Conference on Recommender Systems* (pp. 436-447), *Seattle, USA*. https://dl.acm.org/doi/10.1145/3523227.3548487

[6] Petrov, A. and Macdonald, C., 2022, September. **Effective and Efficient Training for Sequential Recommendation using Recency Sampling**. In *Proceedings of the 16th ACM Conference on Recommender Systems* (pp. 436-447), *Seattle, USA*. https://dl.acm.org/doi/10.1145/3523227.3546785 – **Best Student Paper Award Nominee**

[7] Petrov, A., Safilo, I., Tikhonovich, D., Ignatov, D., 2022, September. **MTS Kion Implicit Contextualised Sequential Dataset for Movie Recommendation**. Presented at *the ACM Conference on Recommender Systems - Workshop on Context-Aware Recommender Systems (RecSys CARS 22), Seattle, USA*. https://arxiv.org/abs/2209.00325

[8]Petrov, A., Makarov, Y., 2021. **Attention-based neural re-ranking approach for next city in trip recommendations**. In *Proceedings of the ACM WSDM WebTour 2021*, *Jerusalem, Israel,* http://ceur-ws.org/Vol-2855/challenge_short_6.pdf

Other activities

I created the first version of the "Applied Machine Learning" online course. https://skillfactory.ru/ml-programma-machine-learning-online, Russian Language. Successfully educated around 500 students.

I developed the first module of the "Big Data Specialist" offline course. https://newprolab.com/ru/bigdata/, Russian Language. The program is data engineering-focused, first launched in 2015 and has been run more than ten times.

I supervised Master's students at the University of Edinburgh from 2018 to 2020. All student projects are about applying deep neural networks to recommend system problems.

I coached High School students in programming contests from 2007 to 2011. The students I coached got awards in all-Russian programming competitions.