Roman Poletukhin

roman.poletukhin@tum.de | rpoletukhin.github.io

HIGHER EDUCATION

Technical University of Munich (TUM) *April 2023 – Feb 2026*
Master of Science, Mathematics in Data Science
German GPA: 1.2/1.0. Supervisor: Prof. Stephan Günnemann.
Thesis: "3D Molecule Generation from Rigid-Body Motifs via Riemannian Flows".

KTH Royal Institute of Technology *Aug 2024 – Jan 2025*
Erasmus+ Exchange Semester in Stockholm, Sweden

Moscow Institute of Physics and Technology (National Research University) *Sept 2018 – July 2022*
Bachelor of Science, Applied Mathematics and Physics
CGPA 4.4/5.0 (German GPA: 1.8/1.0).

PUBLICATIONS

Roman Poletukhin, Marcel Kollovieh, Eike Eberhard, and Stephan Günnemann.
3D Molecule Generation from Rigid Motifs via SE(3) *Flows.* Preprint, currently in review. `[arXiv]`

Simon Malberg*, **Roman Poletukhin***, Carolin M. Schuster, and Georg Groh.
A Comprehensive Evaluation of Cognitive Biases in LLMs. NLP4DH @ NAACL 2025. `[ACL Anthology]`

WORK EXPERIENCE

Research Intern @ Bosch Center for Artificial Intelligence (BCAI) *Oct 2025 – Now*
Research in diffusion-based generative modeling for autonomous driving in the Generative Design and Efficient AI team.

Research Assistant @ Helmholtz Munich *Oct 2024 – April 2025*
Worked on research projects at Marsico Lab, which conducts deep learning research with application to computational RNA biology. The central project was focused on predicting alternative conformations in RNA by leveraging recent advances in self-supervised learning on graphs and RNA foundation models.

R&D Machine Learning Working Student @ Ariadne *Oct 2023 – Sept 2024*
While working in the Research & Development department, implemented the company's custom solution to the offline map-matching problem for sparse and noisy data. The approach, which is built on graph transformers, has improved the accuracy of the 2nd most popular product of the company by over 20%. Later, worked on spatiotemporal trajectory reconstruction via neural TPPs.

Junior Data Scientist @ MegaFon *May 2022 – Jan 2023*
Worked in the Department of Machine Learning on natural language processing (NLP) topics. The main project aimed to analyze and get insights from transcripts of business-to-business (B2B) marketing conversations. Furthermore, I worked with PySpark and developed ML pipelines, tuned/debugged models in the existing MLOps solution.

RECENT ACHIEVEMENTS & ACTIVITIES

Deutschlandstipendium Scholarship *April 2025 – Oct 2025*
Recipient of the merit-based German public-private scholarship for high-achieving and committed students.

Participation in two Mediterranean Machine Learning (M^{2}L) Summer Schools *Sept 2024, Sept 2025*
The school comprises five days of lectures and practical sessions covering recent advances in AI, organized by Google DeepMind. Acceptance rates in 2024 and 2025: 35% and 18%, respectively.

Participation in the Eastern European Machine Learning Summer School (EEML) *July 2025*
Accepted to the school organized by Google DeepMind. Acceptance rate: 20%.

Volunteer Researcher at the Research Group Social Computing, TUM *Jan 2024 – Oct 2024*
Participation in research with Ph.D. students under the supervision of Prof. Georg Groh on the topics of explainable AI.

Participation in the 5th Oxford Machine Learning Summer School *July 2024*
The school on advances in representation learning & generative AI, organised by CIFAR and the University of Oxford.

2nd place at GreenHack IT Hackathon *March 2024*
Development of an AI-based solution to optimise the supply chain of the aerospace company ArianeGroup. Our team won the second prize among seven teams. Organised by Munich Data Science Institute, TUM, and Institut Mines-Télécom.