Anna Kuzina

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akuzina.github.io

Experience

2025 – present **Senior Researcher**, Qualcomm AI Research, Amsterdam,
LLM Efficiency: developing efficient architectures with a focus on latent reasoning, compressed KV-cache, sub-quadratic attention.
Engineering: Implemented distributed training and evaluation pipelines for LLMs.

2024 **Associate Researcher**, Microsoft Research, AI4Science, Amsterdam,
Machine Learning Force Fields: Improved attention-based GNN architecture and performed benchmarking against state-of-the-art models .

2023 **Research Intern**, Microsoft Research, AI4Science, Cambridge, UK,
Machine Learning Force Fields: Improving state-of-the-art MLFF architectures by introducing the attention mechanism into strictly local model graph neural network model.

2021 **Research Intern**, Qualcomm AI Research, Amsterdam,
Generative Compressed Sensing: Developed equivariant generative priors for compressed sensing to mitigate rotation ambiguities in signal processing .

2020 – 2025 **Doctorate Researcher**, VU Amsterdam,
Conducted foundational research on Deep Latent Variable Models, supervised by Jakub Tomczak and Max Welling.
Key Focus: Improved density estimation, robustness of latent representations.

2019 – 2020 **Junior Research Engineer**, Skoltech, Moscow,
Machine learning researcher in ADASE lab, supervised by Evgeny Burnaev.
Key focus: Continual Learning, Deep Generative Models

2018 **Summer Intern**, NVIDIA, Moscow,
Developed DL-based pipeline for online detection of creatures in the video games.
Key focus: Deep Learning for object detection and tracking; Metrics Learning.

2017 – 2018 **Web Analyst**, Tinkoff bank,
Key focus: Analysis of online ads evaluation, anomaly detection, A\B-testing.

Teaching

Fall '20, '21, '22 **TA, Deep Learning**, *Masters in AI,* VU.

Fall 2020 **Lecturer, Machine Learning**, *Software Engineering Bachelor,* HSE.

Fall 2019 **TA, Bayesian Methods in Machine Learning**, *Data Science Masters,* Skoltech.

Fall '18, '19 **Class Teacher, Data Science in Economics**, *Economics and Finance Bachelor,* HSE.

Education

2020 – 2025 **PhD**, VU Amsterdam,
Supervised by Jakub Tomczak and Max Welling.

THESIS: Mapping the Invisible: Insights into Deep Latent Variable Generative Models

2017 – 2019 **MSc**, HSE & SKOLTECH, MOSCOW,
Statistical Learning Theory. GPA 4.7/5.

THESIS: Bayesian Generative Models for Knowledge Transfer in Deep NN on MRI Data

2016 **Exchange program**, Erasmus School of Economics, Rotterdam, GPA 8.7/10.

2013 – 2017 **BSc**, HSE, MOSCOW,
Mathematical Methods in Economic Analysis. **Cum laude**, GPA 8.9/10 (Top 2%).

THESIS: Comparing Forecasting Power of Bayesian VAR with 1-d Time Series Models.

Selected Publications [Scholar]

ICLR 2026 **A. Kuzina***, M. Pioro*, B. Ehteshami Bejnordi
KaVa: Latent Reasoning via Compressed KV-Cache Distillation. [paper]

TMLR 2024 **A. Kuzina**, J.M. Tomczak.
Hierarchical VAE with a Diffusion-based VampPrior. [paper]

NeurIPS 2022 **A. Kuzina**, M. Welling, J.M. Tomczak.
Alleviating Adversarial Attacks on Variational Autoencoders with MCMC. [paper]

NeurIPS 2022 K. Deja* and **A. Kuzina***, T. Trzciński, J. M. Tomczak.
On Analyzing Generative and Denoising Capabilities of Diffusion-based Deep Generative Models. [paper]

ICML 2022 **A. Kuzina**, K. Pratik, F. V. Massoli, A. Behboodi.
Equivariant Priors for Compressed Sensing with Unknown Orientation. [paper]

ICLR 2022 D. Romero, **A. Kuzina**, E. Bekkers, J.M. Tomczak, M. Hoogendoorn
CKConv: Continuous Kernel Convolution For Sequential Data. [paper]

NeurIPS 2021 **A. Kuzina*** and E. Egorov*, E. Burnaev.
BooVAE: Boosting Approach for Continual Learning of VAE. [paper]

Frontiers 2019 **A. Kuzina**, E. Egorov, E. Burnaev.
Bayesian generative models for knowledge transfer in MRI semantic segmentation problems. Frontiers in Neuroscience *(Q1)*. [paper]

* Equal contribution

Presentations and Talks

DDSA 2022 **Invited Talk**, *Danish Data Science conference, Generative models session, Denmark*,
Analysing Adversarial Robustness of VAE and Denoising Abilities of DGM [slides].

MIDL 2020 **Poster**, *Online presentation and poster session*,
Bayesian generative models for knowledge transfer in MRI [slides].

AABI 2019 **Talk**, *Spotlight presentation (best student paper award), Vancouver*,
BooVAE: A scalable framework for continual VAE learning under boosting approach [poster].

2018 **Poster**, *Skoltech-MIT Conference, Moscow, Russia*,
Riemannian manifold learning on fMRI connectivity matrices [poster].

Extra Activities and Achievements

2024 **Organizer at Generative Modeling Summer School, Eindhoven**.

2022 **Participant at ProbAI 2022 Summer School, Helsinki**.

2019 **Volunteer at MLSS 2019, Moscow**.

2019 **TA at Deep Bayes Summer School, Moscow**, *Gaussian Processes session*.

2017 **Awardee of students olimpiad "Applied Mathematics and Informatics"**, *HSE*.

2013 **Awardee of MIPT Mathematical olimpiad**.

Skills

Programming & Tools: Python, R, SQL, Docker, Git

Languages: Russian (Native), English (Advanced), French (Beginner), Dutch (Beginner)