Alisa Sheinkman

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Profile

Postgraduate researcher seeking opportunities to advance **probabilistic machine learning** and, more broadly, **artificial intelligence** in the age of big data and ever-expanding models. My current research focuses on **Bayesian deep learning** and **scalable inference algorithms** and addresses arising challenges with interpretability, reliability and **uncertainty quantification** in mind.

Education

University of Edinburgh, Edinburgh, UK   2020 - 2025
Ph.D. in Mathematics (Pass with Minor Corrections)
The thesis studies **efficient inference** schemes such as stochastic and black box **variational inference** and the specification of the architecture of neural networks, Bayesian model selection and combination. The research output is a novel class of **Bayesian neural networks** and a corresponding variational inference algorithm which together address the challenge of model choice, and improve the **accuracy, calibration** and **reliability of uncertainty quantification** which is especially crucial in **safety-critical applications.**

University of Cambridge, Cambridge, UK   2019 - 2020
MASt in Mathematical Statistics (Merit)
Average mark of 71.0% with essay mark of 87.0%.

National Research University Higher School of Economics, Moscow, Russia   2015 - 2019
Bachelor of Mathematics (First Class Honours)
GPA 9.34 out of 10.

Experience

Researcher, Alan Turing Institute Data Study Group, London, UK   2022
Intensive two-week hackathon which developed and tested deep learning models for predicting the perception of various urban noises. The output is a publication at the Journal of the Acoustical Society of America.

Market analyst, Nielsen IQ, Moscow, Russia   2021
Analysed Nielsen Retail Measurement Data to identify market trends, providing data-driven insights that informed strategic business decisions.

Research intern, NRU HSE, Moscow, Russia   2018-2019
Developed advances on braid groups and quantum matrix algebras in the international laboratory of representation theory and mathematical physics.

Skills

Technical Skills	Python with Numpy/SciPy, JAX, pandas, scikit-learn, NumPyro, Pytorch; Git and GitHub; LaTeX.
Soft Skills	Critical thinking, emotional intelligence, time management.
Languages	English (C2, full proficiency), Russian (native), French (beginner).

Publications

1. E. Semenova, **A.Sheinkman**, T. J. Hitge, S.M.Hall, J.Cockayne, *SMRS: advocating a unified reporting standard for surrogate models in the artificial intelligence era,* arXiv preprint, arXiv:2502.06753, 2025.

2. **A.Sheinkman**, S.Wade, *The Architecture and Evaluation of Bayesian Neural Networks,* arXiv preprint, arXiv:2503.11808, 2025.

3. **A.Sheinkman**, S.Wade, *Variational Bayesian Bow tie Neural Networks with Shrinkage,* arXiv preprint, arXiv:2411.11132, 2024.

4. A.Mitchell, E.Brown, R.Deo, Y.Hou, J.Kirton-Wingate, J.Liang, **A.Sheinkman**, C.Soelistyo, H.Sood, K.Xing, A.Wongprommoon,W.Yip, F.Aletta, *Deep learning techniques for noise annoyance detection: Results from an intensive workshop at the Alan Turing Institute*, the Journal of the Acoustical Society of America 153, A262-A262, 2023.

Talks

The first workshop on Advances in post-Bayesian methods, London, UK, 2025.

CMStatistics (Conference on Computational and Methodological Statistics), London, UK, 2024.

ISBA (International Society for Bayesian Analysis) world meeting, Venice, Italy 2024.

BAYSM (Bayesian Young Statisticians Meeting), Venice, Italy, 2024.

Early Career Researches Day of the Centre for Statistics Annual Conference at the University of Edinburgh, Edinburgh, UK, 2024.

Scholarships and grants

Travel support grant for the First workshop on Advances of post-Bayesian methods, £250, 2025.

ProbAI Hub Doctoral Prize Fellowship, selected for the final round of interviews, not awarded, 2025.

Dr Laura Wisewell Fund scholarship, £1,000, 2024.

ISBA (International Society for Bayesian Analysis) junior travel award, 400$, 2024.

LMS (London Mathematical Society) early career research grant, £450, 2024.

Teaching

King's College London	2022-2025
Fundamentals of Probability, Intro to Dynamical Systems, Probability and Statistics GTA.	
The University of Edinburgh	2021-2022
Honours Algebra, Calculus and Applications, Proofs and Problems TA.	
NRU HSE	2024
Calculus TA.	

Miscellaneous

OVD-info volunteer (human rights defence and media group);
Sports: boxing (2021 - now), professional figure skating (did 2002-2014).