



Use Cases for Bayesian Deep Learning in the Age of ChatGPT

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Department of Statistics, Ludwigstr. 33, Room 144
and online via Zoom ([Link](#))
(Meeting-ID: 683 0699 4223; Password: StatsCol23)

Many researchers have pondered the same existential questions since the release of ChatGPT: Is scale really all you need? Will the future of machine learning rely exclusively on foundation models? Should we all drop our current research agenda and work on the next large language model instead? In this talk, Vincent Fortuin will try to make the case that the answer to all these questions should be a convinced “no” and that now, maybe more than ever, should be the time to focus on fundamental questions in machine learning again. He will provide evidence for this by presenting three modern use cases of Bayesian deep learning in the areas of self-supervised learning, interpretable additive modeling, and neural network sparsification. Together, these will show that the research field of Bayesian deep learning is very much alive and thriving and that its potential for valuable real-world impact is only just unfolding.

Biography:

Vincent Fortuin is a tenure-track research group leader at Helmholtz AI in Munich, leading the group for Efficient Learning and Probabilistic Inference for Science (ELPIS). He is also junior faculty at the Technical University of Munich, a Fellow of the Konrad Zuse School for Reliable AI, affiliated with the Munich Center of Machine Learning, and a Branco Weiss Fellow. His research focuses on reliable and data-efficient AI approaches leveraging Bayesian deep learning, deep generative modeling, meta-learning, and PAC-Bayesian theory. Before that, he did his PhD in Machine Learning at ETH Zürich and was a Research Fellow at the University of Cambridge. He is a member and unit faculty of ELLIS, a regular reviewer and area chair for all major machine learning conferences, and a co-organizer of the Symposium on Advances in Approximate Bayesian Inference (AABI) and the ICBINB initiative.