Eric Nalisnick

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Academic Employment

Assistant Professor, Tenure Track — University of Amsterdam
Supervisor: Max Welling — September 2020 to Present

Postdoctoral Research Associate — University of Cambridge
Supervisor: José Miguel Hernández-Lobato — September 2018 to September 2020

Graduate Student Researcher — University of California, Irvine
Supervisor: Padhraic Smyth — October 2013 to June 2018

Industrial Employment

Research Scientist (20% FTE) — DeepMind
Supervisor: Balaji Lakshminarayanan — February 2019 to January 2020

Research Scientist Intern — DeepMind
Supervisor: Balaji Lakshminarayanan — Summer 2018

Applied Scientist Intern — Amazon
Supervisors: Vijai Mohan, Eiman Elnahrawy — Fall 2016

Research Intern — Twitter
Supervisor: Hugo Larochelle — Summer 2016

Research Intern — Microsoft
Supervisors: Rich Caruana, Nick Craswell — Summer 2015

Research Scientist Intern — Amazon
Supervisors: Vijai Mohan, Rahul Bhagat — Summer 2014

Education

Ph.D. Computer Science	University of California, Irvine	2013-2018
M.S. Computer Science	Lehigh University	2012-2013
B.S. Computer Science & English Literature	Lehigh University	2008-2012

Professional Roles, Memberships, and Affiliations

Member, *European Lab for Learning and Intelligent Systems* (ELLIS) *Society* 2020 to Present

Academic Supervision

PhD Candidates

Putra Manggala (with Holger Hoos) University of Amsterdam, 2021 -

Urja Khurana (with Antske Fokkens) Vrije University Amsterdam, 2020 -

Mrinank Sharma (with Tom Rainforth and Yee Whye Teh) University of Oxford, 2020 -

James Allingham (with José Miguel Hernández-Lobato via ELLIS) University of Cambridge, 2019 -

Masters Students

Daniël Nobbe University of Amsterdam, 2021

Barada Acharya University of California, Irvine, 2018

Bachelors Students

Dionne Gantzert University of Amsterdam, 2021

Teaching

1. *Learning* ("Leren") | University of Amsterdam 2020
   Introduction to Machine Learning, 181 Undergraduate Students, 15 Teaching Assistants

Awards

1. Top / Best Reviewer NeurIPS 2017, ICML 2019, ICML 2020
2. Honorable Mention, Amazon Best Poster Award Southern California ML Symposium 2017
3. NSF Graduate Research Fellowship — Honorable Mention 2014
4. UCI Graduate Dean's Recruitment Fellowship 2013
5. Phi Beta Kappa 2012

Professional Service

Workshop Organization

Bayesian Deep Learning, ELLIS Workshop / NeurIPS Meetup 2020

Bayesian Deep Learning, NeurIPS Workshop 2019

Area Chair / Senior Program Committee

International Conference on Learning Representations (ICLR) 2021

Uncertainty in Artificial Intelligence (UAI)	2021

EDITORIAL BOARD

Guest Editor, Probabilistic Methods for Deep Learning, Special Issue of *Entropy*	2021

JOURNAL REVIEWING

Journal of the American Statistical Association (JASA)	2020 to Present
Machine Learning Research (JMLR)	2018 to Present
Advances in Statistical Analysis	2020 to Present
Neural Processing Letters	2019
Machine Learning	2017
Data Mining and Knowledge Discovery	2017

CONFERENCE REVIEWING

Neural Information Processing Systems (NeurIPS)	2016 to Present
International Conference on Learning Representations (ICLR)	2018 to Present
International Conference on Machine Learning (ICML)	2018 to Present
Artificial Intelligence and Statistics (AIStats)	2019 to Present
Uncertainty in Artificial Intelligence (UAI)	2019 to Present
Association for the Advancement of Artificial Intelligence (AAAI)	2020 to Present
International Joint Conference on Artificial Intelligence (IJCAI)	2019

WORKSHOP REVIEWING

Advances in Approximate Bayesian Inference	2018 to Present
Uncertainty & Robustness in Deep Learning	ICML 2020-2021
Invertible Neural Networks, Normalizing Flows, and Explicit Likelihood Models	ICML 2020-2021
Neural Compression	ICLR 2021
I Cant Believe It's Not Better!	NeurIPS 2020

Publications

* Denotes equal contribution

JOURNAL ARTICLES

1. G. Papamakarios*, **E. Nalisnick***, D. J. Rezende, S. Mohamed, and B. Lakshminarayanan. Normalizing Flows for Probabilistic Modeling and Inference. *Journal of Machine Learning Research* (JMLR), 2021.

CONFERENCE ARTICLES

2. E. Daxberger, **E. Nalisnick***, J. U. Allingham*, J. Antoran*, and J. M. Hernández-Lobato. Expressive yet Tractable Bayesian Deep Learning via Subnetwork Inference. In *Proceedings of the 38th International Conference on Machine Learning* (ICML), 2021.
3. **E. Nalisnick**, J. Gordon, and J. M. Hernández-Lobato. Predictive Complexity Priors. In *Proceedings of the 24th International Conference on Artificial Intelligence and Statistics* (AISTATS), 2021.
4. R. Pinsler, J. Gordon, **E. Nalisnick**, and J. M. Hernández-Lobato. Bayesian Batch Active Learning as Sparse Subset Approximation. In *Advances in Neural Information Processing Systems* (NeurIPS), 2019.
5. **E. Nalisnick**, J. M. Hernández-Lobato, and P. Smyth. Dropout as a Structured Shrinkage Prior. In *Proceedings of the 36th International Conference on Machine Learning* (ICML), 2019.
6. **E. Nalisnick***, A. Matsukawa*, Y. W. Teh, D. Gorur, and B. Lakshminarayanan. Hybrid Models with Deep and Invertible Features. In *Proceedings of the 36th International Conference on Machine Learning* (ICML), 2019.
7. **E. Nalisnick**, A. Matsukawa, Y. W. Teh, D. Gorur, and B. Lakshminarayanan. Do Deep Generative Models Know What They Don't Know? In *Proceedings of the 7th International Conference on Learning Representations* (ICLR), 2019.
8. D. Ji, **E. Nalisnick**, Y. Qian, R. Scheuermann, and P. Smyth. Bayesian Trees for Automated Cytometry Data Analysis. In *Proceedings of Machine Learning for Healthcare* (MLHC), 2018.
9. **E. Nalisnick** and P. Smyth. Learning Priors for Invariance. In *Proceedings of the 21st International Conference on Artificial Intelligence and Statistics* (AISTATS), 2018.
10. **E. Nalisnick** and P. Smyth. Learning Approximately Objective Priors. In *Proceedings of the 33rd Conference on Uncertainty in Artificial Intelligence* (UAI), 2017.
11. **E. Nalisnick** and P. Smyth. Stick-Breaking Variational Autoencoders. In *Proceedings of the 5th International Conference on Learning Representations* (ICLR), 2017.
12. **E. Nalisnick**, B. Mitra, N. Craswell, and R. Caruana. Improving Document Ranking with Dual Word Embeddings. In *Proceedings of the 25th World Wide Web Conference* (WWW), 2016.
13. **E. Nalisnick** and H. Baird. Character-to-Character Sentiment Analysis in Shakespeare's Plays. In *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics* (ACL), 2013.
14. **E. Nalisnick** and H. Baird. Extracting Sentiment Networks from Shakespeare's Plays. In *Proceedings of the 12th International Conference on Document Analysis and Recognition* (ICDAR), 2013.

PEER-REVIEWED WORKSHOP ARTICLES

15. Y. Zhang and **E. Nalisnick**. On the Inconsistency of Bayesian Inference for Misspecified Neural Networks. *Symposium on Advances in Approximate Bayesian Inference*, 2021.
16. E. Daxberger, **E. Nalisnick***, J. U. Allingham*, J. Antoran*, and J. M. Hernández-Lobato. Expressive yet Tractable Bayesian Deep Learning via Subnetwork Inference. *Symposium on Advances in Approximate Bayesian Inference*, 2021.

17. **E. Nalisnick**, J. Gordon, and J. M. Hernández-Lobato. Predictive Complexity Priors. *Uncertainty & Robustness in Deep Learning*, ICML 2020.
18. **E. Nalisnick**, A. Matsukawa, Y. W. Teh, and B. Lakshminarayanan. Detecting Out-of-Distribution Inputs to Deep Generative Models Using Typicality. *Bayesian Deep Learning*, NeurIPS 2019.
19. **E. Nalisnick** and J. M. Hernández-Lobato. Automatic Depth Determination for Bayesian ResNets. *Bayesian Deep Learning*, NeurIPS 2018.
20. **E. Nalisnick**, A. Matsukawa, Y.W. Teh, D. Gorur, and B. Lakshminarayanan. Do Deep Generative Models Know What They Don't Know? *Bayesian Deep Learning*, NeurIPS 2018.
21. **E. Nalisnick***, A. Matsukawa*, Y.W. Teh, D. Gorur, and B. Lakshminarayanan. Hybrid Models with Deep and Invertible Features. *Bayesian Deep Learning*, NeurIPS 2018.
22. O. Rybakov, V. Mohan, A. Misra, S. LeGrand, R. Joseph, K. Chung, S. Singh, Q. You, **E. Nalisnick**, L. Dirac, and R. Luo. The Effectiveness of a Two-Layer Neural Network for Recommendations. Workshop Track, ICLR 2018.
23. D. Ji, **E. Nalisnick**, and P. Smyth. Mondrian Processes for Flow Cytometry Analysis. *Machine Learning for Health*, NeurIPS 2017.
24. **E. Nalisnick** and P. Smyth. Variational Inference with Stein Mixtures. *Advances in Approximate Bayesian Inference*, NIPS 2017.
25. **E. Nalisnick** and P. Smyth. The Amortized Bootstrap. *Implicit Models*, ICML 2017.
26. **E. Nalisnick** and P. Smyth. Variational Reference Priors. Workshop Track, ICLR 2017.
27. **E. Nalisnick**, L. Hertel, and P. Smyth. Approximate Inference for Deep Latent Gaussian Mixtures. *Bayesian Deep Learning*, NeurIPS 2016.
28. **E. Nalisnick** and P. Smyth. Nonparametric Deep Generative Models with Stick-Breaking Priors. *Data-Efficient Machine Learning*, ICML 2016.
29. J. Park, M. Blume-Kohout, R. Krestel, **E. Nalisnick**, and P. Smyth. Analyzing NIH Funding Patterns over Time with Statistical Text Analysis. *Scholarly Big Data*, AAAI 2016.

THESES

1. **E. Nalisnick**. On Priors for Bayesian Neural Networks. *Doctoral Dissertation*, University of California, Irvine, 2018.
2. **E. Nalisnick**. Automatic Methods for Tracking Sentiment Dynamics in Plays. *Master's Thesis*, Lehigh University, 2013.
3. **E. Nalisnick**. A Combinatorial Explanation for a Conjecture of Fomin and Zelevinsky. *Honors Thesis*, Lehigh University, 2012.

PATENTS

1. E. M. H. Elnahrawy, V. Mohan, and **E. Nalisnick**. Generation and Use of Model Parameters in Cold-Start Scenarios. U.S. Patent Number 10,726,334. 28 July 2020.

Invited Talks

1. Predictive Complexity Priors, Imperial College Statistics Seminar 2021
2. Predictive Complexity Priors, Alan Turing Institute 2020
3. Detecting Distribution Shift with Deep Generative Models, Sydney ML Meetup 2020
4. Detecting Distribution Shift with Deep Generative Models, INNF+, ICML Workshop 2020
5. Building and Critiquing Models for Probabilistic Deep Learning, Gatsby Unit, UCL 2020
6. Building and Critiquing Models for Probabilistic Deep Learning, Carnegie Mellon Univ. 2020
7. Building and Critiquing Models for Probabilistic Deep Learning, Univ. of North Carolina 2020
8. Deep Learning & Statistics: Bridging the Gap with Prob. Structure, Univ. of Amsterdam 2020
9. Deep Learning & Statistics: Bridging the Gap with Prob. Structure, UC Santa Barbara 2020
10. Deep Learning Under Covariate Shift, UCI AI/ML Seminar 2019
11. Normalizing Flows for Tractable Probabilistic Modeling and Inference, T-Prime, NeurIPS 2019
12. Deep Learning: A Synthesis from Probabilistic Foundations, RAND Corp Stats. Seminar 2019
13. Evaluating Deep Generative Models on Out-of-Distribution Inputs, Oxford Stats. Seminar 2019
14. Do Deep Generative Models Know What They Don't Know?, CamAIML (MSR Cambridge) 2019
15. Do Deep Generative Models Know What They Don't Know?, Cambridge LTL Seminar 2019
16. Structured Shrinkage Priors for Neural Networks, Imperial College Statistics Seminar 2018
17. Deep Learning: A Synthesis from Probabilistic Foundations, UCI Statistics Seminar 2018
18. Approximate Inference for Frequentist Uncertainty Estimation, SoCal ML Symposium 2017
19. Deep Generative Models with Stick-Breaking Priors, UCI AI/ML Seminar 2017
20. Alternative Priors for Deep Generative Models, OpenAI 2017