BABAK ESMAEILI

E-mail:	b.esmaeili@uva.nl
Website:	https://babak0032.github.io
Google Scholar:	https://scholar.google.com/citations?user=Sxgjz3QAAAAJ&hl=en
Github:	https://github.com/babak0032
Address:	Science Park 904, 1098 XH Amsterdam
	Room number: C3.154d

PUBLICATIONS

Conference

[1] H. Zimmermann, H. Wu, B. Esmaeili, and J.-W. van de Meent. "Nested Variational Inference". In: *Advances in Neural Information Processing Systems*. 2021.

[2] H. Wu*, B. Esmaeili*, M. Wick, J.-B. Tristan, and J.-W. Van De Meent. "Conjugate Energy-Based Models". In: *Proceedings of the 38th International Conference on Machine Learning*. Ed. by M. Meila and T. Zhang. Vol. 139. Proceedings of Machine Learning Research. PMLR, 2021, pp. 11228–11239.

[3] A. Bozkurt*, B. Esmaeili*, D. H. Brooks, J. G. Dy, and J.-W. van de Meent. "Rate-Regularization and Generalization in VAEs". In: *The 24th International Conference on Artificial Intelligence and Statistics*. 2021.

[4] B. Esmaeili, H. Wu, S. Jain, A. Bozkurt, N. Siddharth, B. Paige, D. H. Brooks, J. Dy, and J.-W. Meent. "Structured Disentangled Representations". In: *The 22nd International Conference on Artificial Intelligence and Statistics*. 2019, pp. 2525–2534.

[5] B. Esmaeili, H. Huang, B. Wallace, and J.-W. van de Meent. "Structured Neural Topic Models for Reviews". In: *The 22nd International Conference on Artificial Intelligence and Statistics*. 2019, pp. 3429–3439.

Workshop

[1] H. Wu*, B. Esmaeili*, M. L. Wick, J.-B. Tristan, and J.-W. van de Meent. "Conjugate Energy-Based Models". In: *Energy Based Models Workshop - ICLR 2021*. 2021.

[2] H. Wu*, B. Esmaeili*, M. Wick, J.-B. Tristan, and J.-W. van de Meent. "Conjugate Energy-based Models". In: *Third Symposium on Advances in Approximate Bayesian Inference*. 2021.

[3] H. Zimmermann, H. Wu, B. Esmaeili, S. Stites, and J.-W. van de Meent. "Nested Variational Inference". In: *Third Symposium on Advances in Approximate Bayesian Inference*. 2021.

[4] A. Bozkurt, B. Esmaeili, D. H. Brooks, J. Dy, and J.-W. van de Meent. "Can VAEs Generate Novel Examples?" In: *NeurIPS Workshop on Critiquing and Correcting Trends in Machine Learning*. 2018.

EDUCATION

University of Amsterdam *2021 – Present*
PhD, Computer Science
Advisor: Prof. Jan-Willem van de Meent
Area: Machine Learning, Deep Generative Models, Representation Learning

Northeastern University   *2017 – 2021*
PhD, Computer Science
Advisor: Prof. Jan-Willem van de Meent
Area: Machine Learning, Deep Generative Models, Representation Learning

University of Edinburgh   *2016 – 2017*
MSc, Data Science
Grade: **Distinction** (above 70%)
Advisor: Prof. Michael Guttman
Dissertation: Bayesian Optimization for Likelihood Free Inference

University of Edinburgh   *2012 – 2016*
BSc (Hons), Artificial Intelligence and Computer Science
Grade: **First Class** (above 70%)
Advisor: Prof. Michael Herrman
Dissertation: Particle Swarm Optimization

EXPERIENCE

Teaching Assistant
• DS-5230 – Unsupervised Machine Learning and Data Mining   *Spring 2021*
https://www.khoury.neu.edu/home/jwvdm/teaching/ds5230/spring2021
• CS-7140 – Advanced Machine Learning   *Spring 2018*
https://www.khoury.neu.edu/home/jwvdm/teaching/cs7140/spring2018

Research Assistant   *Summer 2014*
University of Edinburgh
School of Informatics
Advisor: Prof. Paul Anderson
Project: Social media interaction models for teaching and learning

REVIEWING

Advances in Neural Information Processing Systems (NeurIPS)	*2019 – 2021*
International Conference on Machine Learning (ICML)	*2020 – 2021*
AAAI Conference on Artificial Intelligence (AAAI)	*2020 – 2021*
International Conference on Artificial Intelligence and Statistics (AISTATS)	*2021*
International Conference on Learning Representations (ICLR)	*2021*

Awards:

International Conference on Machine Learning (ICML) - Top 10% Reviewer Award	*2021*
International Conference on Machine Learning (ICML) - Top 33% Reviewer Award	*2020*
Advances in Neural Information Processing Systems (NeurIPS) - Top 50% Reviewer Award	*2019*

RESEARCH INTERESTS

I am interested in deep generative models and how we can guide them towards learning useful representations for downstream tasks. I am also interested in the intersection of information theory and representation learning. I am also a fan of probabilistic programming which I think provides exciting opportunities for abstracting probabilistic models as well as general frameworks for inference.