

Andreas M. Munk

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🎓 Andreas M. Munk

Education

University of British Columbia

PHD. IN COMPUTER SCIENCE

- Specializing in probabilistic programming and machine learning

Vancouver, Canada

2018 - 2022 (expected)

The Technical University of Denmark

MSC. IN MATHEMATICAL MODELLING AND COMPUTATION

- GPA: 11.8/12.0

Copenhagen, Denmark

2016 - 2018

California Institute of Technology

EXCHANGE STUDENT

- GPA: 3.6/4.0

Los Angeles, USA

2015

The Technical University of Denmark

BSC. IN EARTH AND SPACE PHYSICS AND ENGINEERING

- GPA: 10.9/12.0

Copenhagen, Denmark

2013 - 2016

Skills

	Programming	Python, Julia, Clojure, Matlab, C/C++, \LaTeX
Machine Learning and Scientific Computing Libraries		PyTorch, Tensorflow, Scikit-Learn, Numpy, Scipy
Probabilistic Programming Languages		PyProb (contributor - pending pull request), Anglican, Pyro
DevOps		Docker, Singularity
Languages		Danish (native), English (fluent), German

Experience

ACADEMIC EXPERIENCE AND TEACHINGS

The Technical University of Denmark

TEACHING ASSISTANT

- Course: Introduction to Machine Learning and Data Mining

Copenhagen, Denmark

2017

The Technical University of Denmark

TEACHING ASSISTANT

- Course: Continuous and Discrete Time Signals

Copenhagen, Denmark

2016

The Technical University of Denmark

TEACHING ASSISTANT

- Course: Advanced Engineering Mathematics 1

Copenhagen, Denmark

2014 - 2015

INDUSTRIAL EXPERIENCE

Canecto

MACHINE LEARNING ENGINEER (INTERNSHIP)

- In charge of building the company's core machine learning models

Copenhagen, Denmark

2017

Extracurricular Activity

World Roundtrip

DENMARK→SOUTHEAST ASIA→NEW ZEALAND→CENTRAL AMERICA→SOUTH AMERICA→DENMARK

2012 - 2013 (6 months)

Hobbies

TENNIS, TABLE TENNIS, PIANO, GAMES, WEIGHTLIFTING

Honors & Awards

2018 - 2022	Faculty of Science PhD Tuition Award , University of British Columbia	Canada
2018 - 2022	International Tuition Award , University of British Columbia	Canada
2020	President's Academic Excellence Initiative PhD Award , University of British Columbia	Canada
2018	Research travel grant , IEEE Signal Processing Society (SPS)	
2018	Research travel grant , DTU Compute	Denmark
2018	Research travel grant , Otto Mønstedts Fond	Denmark
2016	Scholarship , Garvermester C. W. Gerickes scholarship	Denmark
2016	Scholarship , Technical University of Denmark	Denmark
2016	Scholarship , Frk. Marie Månssons scholarship	Denmark
2016	Scholarship , Otto Mønstedts Fond	Denmark

Publications

- [1] Andreas Munk, William Harvey, and Frank Wood. “Assisting the Adversary to Improve GAN Training”. In: *arXiv:2010.01274 [cs, stat]* (Oct. 2020). arXiv: 2010.01274 [cs, stat].
- [2] Atilim Gunes Baydin, Lei Shao, Wahid Bhimji, Lukas Heinrich, Saeid Naderiparizi, Andreas Munk, Jialin Liu, Bradley Gram-Hansen, Gilles Louppe, Lawrence Meadows, Philip Torr, Victor Lee, Kyle Cranmer, Mr. Prabhat, and Frank Wood. “Efficient Probabilistic Inference in the Quest for Physics Beyond the Standard Model”. In: *Advances in Neural Information Processing Systems* 32. Curran Associates, Inc., 2019, pp. 5459–5472.
- [3] Atilim Güneş Baydin, Lei Shao, Wahid Bhimji, Lukas Heinrich, Lawrence Meadows, Jialin Liu, Andreas Munk, Saeid Naderiparizi, Bradley Gram-Hansen, Gilles Louppe, Mingfei Ma, Xiaohui Zhao, Philip Torr, Victor Lee, Kyle Cranmer, Prabhat, and Frank Wood. “Etalumis: Bringing Probabilistic Programming to Scientific Simulators at Scale”. In: *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis*. SC ’19. New York, NY, USA: Association for Computing Machinery, Nov. 2019, pp. 1–24. ISBN: 978-1-4503-6229-0. DOI: 10.1145/3295500.3356180.
- [4] Bradley Gram-Hansen, Christian Schroeder de Witt, Robert Zinkov, Saeid Naderiparizi, Adam Scibior, Andreas Munk, Frank Wood, Mehrdad Ghadiri, Philip Torr, Yee Whye Teh, Atilim Gunes Baydin, and Tom Rainforth. “Efficient Bayesian Inference for Nested Simulators”. en. In: (Oct. 2019).
- [5] William Harvey, Andreas Munk, Atilim Güneş Baydin, Alexander Bergholm, and Frank Wood. “Attention for Inference Compilation”. In: *arXiv:1910.11961 [cs, stat]* (Oct. 2019). arXiv: 1910.11961 [cs, stat].
- [6] Andreas Munk, Adam Scibior, Atilim Güneş Baydin, Andrew Stewart, Goran Fernlund, Anoush Poursartip, and Frank Wood. “Deep Probabilistic Surrogate Networks for Universal Simulator Approximation”. In: *arXiv:1910.11950 [cs, stat]* (Oct. 2019). arXiv: 1910.11950 [cs, stat].
- [7] Saeid Naderiparizi, Adam Scibior, Andreas Munk, Mehrdad Ghadiri, Atilim Güneş Baydin, Bradley Gram-Hansen, Christian Schroeder de Witt, Robert Zinkov, Philip H. S. Torr, Tom Rainforth, Yee Whye Teh, and Frank Wood. “Amortized Rejection Sampling in Universal Probabilistic Programming”. In: *arXiv:1910.09056 [cs, stat]* (Nov. 2019). arXiv: 1910.09056 [cs, stat].
- [8] A. M. Munk, K. V. Olesen, S. W. Gangstad, and L. K. Hansen. “Semi-Supervised Sleep-Stage Scoring Based on Single Channel EEG”. In: *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. Apr. 2018, pp. 2551–2555. DOI: 10.1109/ICASSP.2018.8461982.