

Curriculum Vitae

Name: **Nicki Skafte Detlefsen**

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Education

2017 - 2020 PhD student at section for Cognitive Systems, Technical University of Denmark (DTU).
Project title: Learning invariant representations from prior knowledge in Deep Learning

Work experience

2025 - now Senior Scientist at The National Center for AI in Society (CAISA)
Co-lead on moonshot project on designing and evaluating AI for responsible use in the public sector.

2025 - now Associate Professor (Lektor) at DTU Compute
Research in MLOps, efficient machine learning and Agentic Systems. Teaching course 02476 Machine Learning Operations. Master and bachelor project supervision.

2022 - 2025 Postdoctoral Researcher at DTU Compute and Pioneer Centre for AI
Research in MLOps and efficient machine learning. Teaching course 02476 Machine Learning Operations. Master and bachelor project supervision.

2021 - 2022 Postdoctoral Researcher at DTU Compute
Research in deep generative models and manifold learning. Teaching course 02476 Machine Learning Operations. Master and bachelor project supervision.

2020 - now Software engineer at [Lightning AI](#)
Core developer and maintainer on a international open-source software team developing software for researchers and industry to easily scale and evaluate their experiments. Our main products are [Pytorch Lightning](#) and [Torchmetrics](#).

Publications

h-index: 12 i10-index: 12 Number of citations: 1033

- 2026 ♡ *Exploring different approaches to customize language models for domain-specific text-to-code generation*, Luís Freire, Fernanda A Andaló, **Nicki Skafte Detlefsen**. arXiv preprint arXiv:2603.16526
- 2026 ♡ *Decoding Depression: AI-EEG Integration for Efficient Depression Diagnosis*, Bekarys Gabdrakhimov, **Nicki Skafte Detlefsen**, Cihan Uyanik, Muhammad Ahmed Khan, Osama Ejaz, Muhammad Abul Hasan, Saad Ahmed Qazi, Matteo Saibene, Sadasivan Puthusserypady. 2026 48th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)
- 2025 ♡ *Towards a European HPC/AI ecosystem: a community-driven report*, Petr Taborsky, Iacopo Colonnelli, Krzysztof Kurowski, Rakesh Sarma, Niels Henrik Pontoppidan, Branislav Jansík, **Nicki Skafte Detlefsen**, Jens Egholm Pedersen, Rasmus Larsen, Lars Kai Hansen. *Procedia Computer Science*, Volume 255, Pages 140-149
- 2024 ♡ *Seeded LoRA: Collaborative Fine-Tuning Through Seed Initialization of Adapters*, Alejandro R. Salamanca, Ahmet Üstün, **Nicki Skafte Detlefsen**, Tim Dettmers. Efficient Systems for Foundation Models workshop at ICML 2024
- 2022 ♡ *What is a meaningful representation of protein sequences?*, **Nicki Skafte Detlefsen**, Søren Hauberg, Wouter Boomsma. In *Nature Communications*, Volume 13, Number 1, Pages 1914
- 2022 ♡ *TorchMetrics - Measuring Reproducibility in PyTorch*, **Nicki Skafte Detlefsen**, Jiri Borovec, Justus Schock, Ananya Harsh Jha, Teddy Koker, Luca Di Liello, Daniel Stancl, Changsheng Quan, Maxim Grechkin, and William Falcon. In *Journal of Open Source Software (JOSS)*, Volume 7, Number 70, Pages 4101
- 2022 ♡ *Laplacian autoencoders for learning stochastic representations*, Marco Miani, Frederik Warburg, Pablo Moreno-Muñoz, **Nicki Skafte Detlefsen**, Søren Hauberg. *Advances in Neural Information Processing Systems*, Volume 35, Pages 21059-21072
- 2022 ♡ *Is an encoder within reach?*, Helene Hauschultz, Rasmus Berg Palm, **Nicki Skafte Detlefsen**, Andrew Allan du Plessis, Søren Hauberg. arXiv preprint arXiv:2206.01552
- 2021 ♡ *Developing and validating COVID-19 adverse outcome risk prediction models from a bi-national European cohort of 5594 patients*, Espen Jimenez-Solem, Tonny S Petersen, Casper Hansen, Christian Hansen, Christina Lioma, Christian Igel, Wouter Boomsma, Oswin Krause, Stephan Lorenzen, Raghavendra Selvan, and others. In *Scientific Reports*, Volume 11, Number 1, Pages 3246

- 2020 ♡ *What is a meaningful representation of protein sequences?*, **Nicki Skafte Detlefsen**, Søren Hauberg, Wouter Boomsma. arXiv preprint arXiv:2012.02679
- 2020 ♡ *Lung Segmentation from Chest X-rays using Variational Data Imputation*, Raghavendra Selvan, Erik B. Dam, **Nicki Skafte Detlefsen**, Sofus Rischel, Kaining Sheng, Mads Nielsen, Akshay Pai. In ICML Workshop on Learning from Missing Data (Artemiss) 2020
- 2020 ♡ *Learning invariant representations from prior knowledge in Deep Learning*, **Nicki Skafte Detlefsen**. PhD Thesis, Technical University of Denmark
- 2019 ♡ *Explicit Disentanglement of Appearance and Perspective in Generative Models*, **Nicki Skafte Detlefsen**, Søren Hauberg. In Proceedings IEEE Conf. on Neural Information Processing Systems (NeurIPS), Vancouver, Canada. December 2019
- 2019 ♡ *Reliable training and estimation of variance networks*, **Nicki Skafte Detlefsen**, Martin Jørgensen, Søren Hauberg. In Proceedings IEEE Conf. on Neural Information Processing Systems (NeurIPS), Vancouver, Canada. December 2019
- 2019 ♡ *Diffeomorphic Temporal Alignment Nets*, Ron A. Shapira Weber, Matan Eyal, **Nicki Skafte Detlefsen**, Oren Shriki, Oren Freifeld. In Proceedings IEEE Conf. on Neural Information Processing Systems (NeurIPS), Vancouver, Canada. December 2019
- 2018 ♡ *Deep Diffeomorphic Transformer Networks*, **Nicki Skafte Detlefsen**, Oren Freifeld, Søren Hauberg. In Proceedings IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), Salt Lake City, USA. July 2018

Grants

- 2025 **Nicki S. Detlefsen**, Kamal Nasrollahi, *Next-Generation VMS: Agentic AI and MLOps for Automated Cross-Camera Tracking and Re-ID*, Innovation Foundation Denmark, DKK 828,000
- 2025 **Nicki S. Detlefsen**, Kamal Nasrollahi, *Next Generation VMS: Contextualized Vision-Language Models for Alarm Refinement and Executive Summaries*, Innovation Foundation Denmark, 1.070.000 DKK
- 2025 **Nicki S. Detlefsen**, Lars K. Hansen, *General Pretrained EEG Model*, Gefion Voucher Grant, Novo Nordisk Foundation, 1.400.000 DKK
- 2025 Rasmus Aagaard, **Nicki S. Detlefsen**, Kaare B. Petersen, Lars K. Hansen, *Industrial PhD - Edge-deployment of Deep Neural Networks via Model Compression in Healthcare Applications*, 1.070.000 DKK
- 2024 Mathilde Sjølander Andresen, **Nicki Skafte Detlefsen**, Mark Riis. *Fremtidens digitale integratorer: National efteruddannelsesplatform for bæredygtig AI*, Danish Agency for Higher Education and Science, 2.485.000 DKK

Services

- Organizer* Main organizer for two summer schools: the first summer school on Machine Learning Operations ([MLOPSSS](#)) and Summer school on advance machine learning [in 2025](#)).
- Reviewer* Neural Information Processing Systems (NeurIPS) 2022, 2023, 2024 International Conference on Machine Learning (ICML) 2022, 2024, Artificial Intelligence and Statistics (AISTATS) 2022, 2023
- Contributor* I have been a open-source contributor for over 5 years, contributing code to frameworks such as [Pytorch](#) and [Scikit-learn](#). They are some of the core open source frameworks for doing machine learning research.
- Mentoring* I have mentored both students locally at my university, helping them getting through their studies but also mentored people in the open source software community on how to contribute code etc.

Media

- 2022 "Kunstig intelligens tegner verdenskort for proteiner", short form explainer regarding Nature Communications paper in Videnskab.dk ([link](#))
- 2019 "Computerne skal lære at tage fejl", short form explainer regarding Neurips paper in Videnskab.dk ([link](#))

References

- Søren Hauberg* Professor, Section for Cognitive Systems, Technical University of Denmark, email: sohau@dtu.dk
- Lars Kai Hansen* Professor, Section for Cognitive Systems, Technical University of Denmark, email: sohau@dtu.dk
- Wouter Boomsma* Professor, Machine Learning group, Copenhagen University, email: wb@di.ku.dk
- Mark Riis* Head of Innovation, Technical University of Denmark, email: mberi@dtu.dk