Nicki Skafte Detlefsen

Associate Professor, DTU Compute · Senior Scientist, CAISA · Open-Source Machine Learning Developer

skaftenicki@gmail.com · `https://skaftenicki.dev` · ORCID 0000-0002-8133-682X · Copenhagen, Denmark

CV compiled October 2026; Google Scholar statistics as of 4 August 2026

Profile

Associate Professor at the Section for Cognitive Systems, Technical University of Denmark (DTU Compute), and Senior Scientist at CAISA — the National Center for AI in Society. Research in Machine Learning Operations (MLOps), efficient machine learning, and agentic systems, with a strong open-source software background. Has secured 6 external grants totaling DKK 9.3M over 2024–2026.

Education

2017 – 2020 **PhD in Deep Learning** — Section for Cognitive Systems, Technical University of Denmark (DTU Compute). Thesis: *Learning invariant representations from prior knowledge in Deep Learning*

Positions

2025 – now **Associate Professor** — DTU Compute, Copenhagen. Research in MLOps, efficient machine learning and agentic systems; teaching; MSc and BSc project supervision.

2026 – now **Senior Scientist** — CAISA — the National Center for AI in Society. Co-lead on a moonshot project on designing and evaluating AI for responsible use in the public sector.

2020 – now **Software Engineer** — Lightning AI. Core developer and maintainer on the open-source team behind **PyTorch Lightning** and **TorchMetrics**.

2022 – 2025 **Postdoctoral Researcher** — DTU Compute and Pioneer Centre for AI. Research in MLOps and efficient machine learning.

2021 – 2022 **Postdoctoral Researcher** — DTU Compute. Research in deep generative models and manifold learning.

Grants

6 grants awarded 2024–2026, totaling DKK 9.3M:

2026 *Large-Scale AI Infrastructure Training for Engineering Students*, Novo Nordisk Foundation (PREPARE programme) — DKK 2,494,999

2025 *Next-Generation VMS: Agentic AI and MLOps for Automated Cross-Camera Tracking and Re-ID* (with K. Nasrollahi), Innovation Foundation Denmark — DKK 828,000

2025 *Next Generation VMS: Contextualized Vision-Language Models for Alarm Refinement and Executive Summaries* (with K. Nasrollahi), Innovation Foundation Denmark — DKK 1,070,000

2025 *General Pretrained EEG Model* (with L. K. Hansen), Gefion Voucher Grant, Novo Nordisk Foundation — DKK 1,400,000

2025 *Industrial PhD: Edge-deployment of Deep Neural Networks via Model Compression in Healthcare Applications* (with R. Aagaard, K. B. Petersen, L. K. Hansen), Innovation Foundation Denmark — DKK 1,070,000

2024 *Fremtidens digitale integratorer: National efteruddannelsesplatform for bæredygtig AI* (with M. Sjølander Andresen, M. Riis), Danish Agency for Higher Education and Science — DKK 2,485,000

Teaching, supervision & service

Teaching Main lecturer and material developer for 02476 Machine Learning Operations at DTU (2021–now), incl. industrial continuing-education versions (MLOps, AI Integration).

Organizer Main organizer of the MLOPSSS (MLOps) and Advanced Machine Learning summer schools at DTU.

Examiner External examiner (censor) in the Danish civil engineering and computer science censor corps.

Mentoring 2 PhD/postdoc candidates and 100 MSc/BSc thesis projects supervised since 2018 (7 active).

Reviewer NeurIPS 2022–2024; ICML 2022, 2024; AISTATS 2022–2023.

Open source Core developer of PyTorch Lightning and TorchMetrics; creator of *libcpab* and *ddtn*.

Publications

h-index 11 · i10-index 11 · 1,138 citations (1,080 in the past five years) · 17 publications · statistics: Google Scholar, August 2026

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 *Real-Time EEG Cap Electrode Detection for Guided Point-of-Care Placement*, William Lehn-Schiøler, Mads Sverker Nilsson, **Nicki Skafte Detlefsen**. arXiv preprint arXiv:2607.20142

2026 *Decoding Depression: AI-EEG Integration for Efficient Depression Diagnosis*, Bekarys Gabdrakhimov, **Nicki Skafte Detlefsen**, …, Sadasivan Puthusserypady. IEEE EMBC 2026

2025 *Towards a European HPC/AI ecosystem: a community-driven report*, P. Taborsky, I. Colonnelli, K. Kurowski, …, **Nicki Skafte Detlefsen**, …, Lars Kai Hansen. Procedia Computer Science 255:140–149

2024 *Seeded LoRA: Collaborative Fine-Tuning Through Seed Initialization of Adapters*, Alejandro R. Salamanca, Ahmet Üstün, **Nicki Skafte Detlefsen**, Tim Dettmers. Workshop on Efficient Systems for Foundation Models, ICML 2024

2022 *TorchMetrics — Measuring Reproducibility in PyTorch*, **Nicki Skafte Detlefsen**, Jiri Borovec, …, William Falcon. Journal of Open Source Software 7(70):4101 (cited 345×)

2022 *What is a meaningful representation of protein sequences?*, **Nicki Skafte Detlefsen**, Søren Hauberg, Wouter Boomsma. Nature Communications 13(1):1914 (cited 236×)

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 (NeurIPS) 35:21059–21072

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, …, incl. **Nicki S. Detlefsen**, …, Mads Nielsen, Martin Sillesen. Scientific Reports 11(1):3246 (cited 105×)

2020 *What is a meaningful representation of protein sequences?*, **Nicki Skafte Detlefsen**, Søren Hauberg, Wouter Boomsma. arXiv preprint arXiv:2012.02679 (preprint of the Nature Communications paper)

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. ICML Workshop on Learning from Missing Data (Artemiss)

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. NeurIPS 2019, Vancouver, Canada

2019 *Reliable training and estimation of variance networks*, **Nicki Skafte Detlefsen**, Martin Jørgensen, Søren Hauberg. NeurIPS 2019, Vancouver, Canada (cited 88×)

2019 *Diffeomorphic Temporal Alignment Nets*, Ron A. Shapira Weber, Matan Eyal, **Nicki Skafte Detlefsen**, Oren Shriki, Oren Freifeld. NeurIPS 2019, Vancouver, Canada

2018 *Deep Diffeomorphic Transformer Networks*, **Nicki Skafte Detlefsen**, Oren Freifeld, Søren Hauberg. CVPR 2018, Salt Lake City, USA, pp. 4403–4412 (cited 66×)