

Nicklas Hansen

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Research Interest

I am broadly interested in developing intelligent systems that continuously learn, generalize, and adapt. My work is at the intersection of **machine learning**, **robotics**, and **computer vision**.

Education

University of California, Berkeley

Berkeley, CA, USA

Visiting Student, GPA: 4.0/4.0

Spring 2020

· Spar Nord Fonden scholarship recipient, Collider Cup finalist, Innovation Centre Denmark's SPARK winner.

Technical University of Denmark

Kongens Lyngby, Denmark

MSc Mathematical Modeling & Computation, GPA: 10.7/12.0

Feb 2019 - est. Feb 2021

· Special topics in machine learning and research projects. Advised by Ole Winther.

Technical University of Denmark

Kongens Lyngby, Denmark

BSc Software Technology, GPA: 8.2/12.0, final year GPA: 10.8/12.0

Sep 2015 - Dec 2018

· Nanyang Technological University, Singapore - semester abroad, Fall 2017.

Research Experience

University of California, San Diego

San Diego, CA, USA

Visiting Researcher

July 2020 - Aug 2021

· Reinforcement learning. Advised by Xiaolong Wang.

University of California, Berkeley - Berkeley Artificial Intelligence Research (BAIR)

Berkeley, CA, USA

Graduate Research Intern

Jan 2020 - July 2020

· Reinforcement learning. Supervised by Xiaolong Wang & Lerrel Pinto, advised by Alyosha Efros.

DTU Cognitive Systems

Kongens Lyngby, Denmark

Student Researcher

Fall 2019

· Transfer learning for deep sequence modeling in personalized healthcare. Advised by Morten Mørup.

Publications and Pre-prints

Generalization in Reinforcement Learning by Soft Data Augmentation

Pre-print

Submitted to IEEE International Conference on Robotics and Automation (ICRA)

2021

<https://arxiv.org/abs/2011.13389>

Nicklas Hansen, Xiaolong Wang

Self-Supervised Policy Adaptation during Deployment

Spotlight

International Conference on Learning Representations (ICLR)

2021

Nicklas Hansen, Rishabh Jangir, Yu Sun, Guillem Alenyà, Pieter Abbeel, Alexei A. Efros, Lerrel Pinto, Xiaolong Wang

<https://arxiv.org/abs/2007.04309>

https://openreview.net/forum?id=o_V-MjyyGV_

Short Term Blood Glucose Prediction Based on Continuous Glucose Monitoring Data

Poster

IEEE Engineering in Medicine and Biology Conference (EMBC)

2020

Ali Mohebbi, Alexander R. Johansen, Nicklas Hansen, Peter E. Christensen, Jens M. Tarp, Morten L. Jensen, Henrik Bengtsson, Morten Mørup

<https://arxiv.org/abs/2002.02805>

Teaching

Technical University of Denmark

Reinforcement Learning

Co-organizer

Jan 2021

- Special course that I co-organized w/ Prof. Ole Winther for a group of students. Three weeks of full-time study.

Technical University of Denmark

02456 Deep Learning

Teaching Assistant

Fall 2019, Fall 2020

- Significant course material contributions, **supervised 100+ students' projects** on reinforcement learning.

02454 Introduction to Cognitive Science

Fall 2019

- Assisted tutorial sessions, corrected assignments.

Work Experience

raffle.ai

Machine Learning Intern

Copenhagen, Denmark

Summer 2019

- I built a cross-domain text-to-SQL parser in PyTorch.

Retune DSP

Student Assistant

Kongens Lyngby, Denmark

Feb 2019 - Dec 2019

- I helped a team of engineers build and maintain deep learning pipelines for embedded voice control.

Nordic Transition

Student Software Developer

Gentofte, Denmark

Jul 2016 - Dec 2019

- I developed and maintained a data management and analysis platform for the HR industry.

Academic Service

2021 Association for the Advancement of Artificial Intelligence (**AAAI**)

Reviewer

2020 Annual Conference of the Association for Computational Linguistics (**ACL**)

Assisted review

2020 SIGNLL Conference on Computational Natural Language Learning (**CoNLL**)

Assisted review

Awards

2020 **Spar Nord Fond Scholarship**

Scholarship

- A scholarship to study a semester at UC Berkeley (5 recipients nation-wide).

2020 **Berkeley Collider Cup Finalist**

Award

- Biannual startup competition. Best student project from each class is nominated.

2020 **Innovation Center Denmark's SPARK Winner**

Award

- Best project in a 6-month entrepreneurial program in the Bay Area.

2017 **Otto Mønsted Fonds Legat**

Scholarship

- A grant for high-achieving students (GPA >8.0) that wish to study a semester abroad.

Selected Open-Source Projects

DMControl Generalization Benchmark

Nov 2020

- Benchmark for generalization in continuous control from pixels.

<https://github.com/nicklashansen/dmcontrol-generalization-benchmark>

Optimization in Deep Learning

Dec 2019

- Implementation and benchmark of recent deep learning optimization algorithms.

<https://github.com/nicklashansen/neural-net-optimization>

How to build RNNs and LSTMs from scratch with NumPy

Oct 2019

- Educational material on recurrent neural networks.

https://github.com/nicklashansen/rnn_lstm_from_scratch

Programming

Python, C, C#, JavaScript, Matlab, SQL

Machine Learning

PyTorch, TensorFlow

Others

Linux, Docker, Git, Kubernetes, LSF/SLURM, Azure, AWS, Jupyter, MuJoCo, Latex