

# Nicklas Hansen

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## Research Interest

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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

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### 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

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### 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

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### Generalization in Reinforcement Learning by Soft Data Augmentation

Pre-print

arXiv, pre-print

2020

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

Nicklas Hansen, Xiaolong Wang

### Self-Supervised Policy Adaptation during Deployment

Workshop

Deep Reinforcement Learning Workshop @ NeurIPS 2020

2020

Nicklas Hansen, Rishabh Jangir, Yu Sun, Guillem Alenyà, Pieter Abbeel, Alexei A. Efros,

Lerrel Pinto, Xiaolong Wang

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

### 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

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### Technical University of Denmark

#### 02456 Deep Learning

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

*Teaching Assistant*

*Fall 2019, Fall 2020*

#### 02454 Introduction to Cognitive Science

· Assisted tutorial sessions, corrected assignments.

*Fall 2019*

## Work Experience

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### raffle.ai

#### Machine Learning Intern

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

*Copenhagen, Denmark*

*Summer 2019*

### Retune DSP

#### Student Assistant

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

*Kongens Lyngby, Denmark*

*Feb 2019 - Dec 2019*

### Nordic Transition

#### Student Software Developer

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

*Gentofte, Denmark*

*Jul 2016 - Dec 2019*

## Academic Service

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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

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2020 **Spar Nord Fond Scholarship**

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

*Scholarship*

2020 **Berkeley Collider Cup Finalist**

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

*Award*

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

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

*Award*

2017 **Otto Mønsted Fonds Legat**

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

*Scholarship*

## Selected Open-Source Projects

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### DMControl Generalization Benchmark

· Benchmark for generalization in continuous control from pixels.

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

*Nov 2020*

### Self-Supervised Policy Adaptation during Deployment

· Training and evaluation code for our paper.

<https://github.com/nicklashansen/policy-adaptation-during-deployment>

*Jun 2020*

### Optimization in Deep Learning

· Implementation and benchmark of recent deep learning optimization algorithms.

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

*Dec 2019*

### How to build RNNs and LSTMs from scratch with NumPy

· Educational material on recurrent neural networks.

[https://github.com/nicklashansen/rnn\\_lstm\\_from\\_scratch](https://github.com/nicklashansen/rnn_lstm_from_scratch)

*Oct 2019*

### Programming

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

### Machine Learning

PyTorch, TensorFlow

### Others

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