

Jakob Drachmann Havtorn

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BRIEF

I am a second year **Industrial PhD student** funded in part by the Danish InnovationFund and the health-tech startup Corti where I had worked as Machine Learning Engineer since graduating from the Technical University of Denmark in 2018. I work with **probabilistic deep learning** and **variational inference** on audio and text and have published at top-ranking conferences such as **ICML**, **ACL** and **ICASSP**.

I am interested in probabilistic representation learning on sequence data for compression and low-resource semi-supervised learning.

LINKS

scholar.google.com/JakobHavtorn

github.com/JakobHavtorn

linkedin.com/in/JakobHavtorn

twitter.com/JakobHavtorn

TEACHING

I have co-supervised one MSc thesis project and have been a Teaching Assistant on the following courses during my time at DTU:

- Professional Deep Learning
- Deep Learning
- Constrained Optimization
- Thermodyn. and Statistical Physics
- Physics 1

SKILLS

Mathematics • Stats • Deep learning
Linux • Shell • Bash • Fish
Python • Conda • Pip • venv
PyTorch • TensorFlow • SciKit-Learn
W&B • Tensorboard • ClearML
Google Protocol Buffers • gRPC
Docker • AWS • Azure

INTERESTS

Amazed by astronomy, history and biology. Mediocre at CrossFit.

EXPERIENCE

Corti | PhD Student, Research Principal

August 2020 – Present

Industrial PhD Researcher funded by the Danish InnovationFund. I research uncertainty quantification within machine learning on high dimensional data such as audio and text. Employed at Corti and enrolled at the Technical University of Denmark.

Corti | Lead Machine Learning Engineer

August 2018 – August 2020

Leading a team of 3-4 machine learning engineers, I was responsible for daily stand-ups and task-delegation for fourteen day sprints. Worked on automatic speech recognition and segmentation and classification tasks on audio and text. Co-developed software to serve co-dependent micro-serviced ML models for multiple online streams of data.

Siemens-Gamesa Renewable Energy | MATLAB Developer

June 2016 – November 2017

Developed internal Matlab tools for loads design and validation including numerical methods and optimization of existing implementations.

EDUCATION

Technical University of Denmark

PhD in Machine Learning

August 2020 - August 2023

Uncertainty Quantification for Machine Learning Systems

Cognitive Systems, Department of Applied Mathematics and Computer Science. Supervised by Ass.Prof. Jes Frellesen, Prof. Søren Hauberg, Prof. Ole Winther and Adj.Ass.Prof. Lars Maaløe.

MSc Eng. Mathematical Modelling and Computation

2016 - 2018 | GPA: 3.8

Variational Optimization of Neural Networks

Thesis supervised by Prof. Ole Winther.


BSc Eng. Physics

2013 - 2016 | GPA: 3.5

Fabrication of Semi-Conductor Devices

SELECTED PUBLICATIONS

Hierarchical VAEs Know What They Don't Know. **J.D. Havtorn**, J. Frellesen, S. Hauberg, L. Maaløe. 38th International Conference on Machine Learning (**ICML**). 2021. 

MultiQT: Multimodal learning for real-time question tracking in speech. **J.D. Havtorn**, J. Latko, J. Edin, L. Borgholt, L. Maaløe, L. Belgrano, N.F. Jacobsen, R. Sdun, Z. Agić. 58th Annual Meeting of the Association for Computational Linguistics (**ACL**). 2020. 

Do End-to-End Speech Recognition Models Care About Context?. L. Borgholt, **J.D. Havtorn**, Z. Agić, A. Søgaard, L. Maaløe, C. Igel. 21st Annual Conference of the International Speech Communication Association (**Interspeech**). 2020. 

On Scaling Contrastive Representations for Low-Resource Speech Recognition. L. Borgholt, T.M.S. Tax, **J.D. Havtorn**, L. Maaløe, C. Igel. 46th IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**). 2021. 