



Ola Rønning

PostDoc i Data Science

CONTACT

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EDUCATION

Københavns Universitet

Ph.D. | Datalogi
2023

M.Sc. | Datalogi
2018

B.Sc. | Datalogi
2015

EXPERTISE

PROGRAMMING

Python
NumPyro • Pyro • TensorFlow •
PyTorch • Jax • NetworkX • SciPy • Boto3
Others:
C • C++ • Cuda

INFRASTRUCTURE

AWS
Elastic Beanstalk • ECR/ECS • Sagemaker
• Lambda • S3 • Elastic Search

CI/CD

Docker • CircleCI

DATA WRANGLING

Apache Airflow • Apache Arrow • Pandas

WEB

Django Rest framework • Django • Flask

PROFILE

Machine learning researcher focused on probabilistic programming and risk-aware modeling. Experienced in developing statistical methods that balance uncertainty and accuracy. Interested in integrating probability into systems architecture to build trustworthy models.

EXPERIENCE

IT-UNIVERSITET I KØBENHAVN | POSTDOC
June 2025 - June 2027

- Developed Bayesian inference method for mobile robot navigation.

KØBENHAVNS UNIVERSITET | POSTDOC
April 2023 - April 2025

- Developed Bayesian inference method for high-dimensional problems.
- Published in top machine learning conference.
- Co-supervised Masters projects and Masters theses.

COBIRO | LEDENDE AI INGENIØR
June 2018 - December 2019

- Led the six-engineer ML team.
- Designed and maintained ML production system with heterogeneous data sources.
- Involved in pitching to investors, grant seeking and reporting.

COBIRO | AI INGENIØR
April 2018 - June 2018

- Developed a system for keyword extraction from websites and e-commerce products.
- Designed and developed an algorithm for computing fine-grained business categories.
- Designed and implemented platform for annotations.

OPEN-SOURCE

Pyro | Deep Probabilistic Programming Language
NumPyro | Deep Probabilistic Programming Language
ADBench | Benchmark for automatic differentiation
LLMFlows | LLM prompt API

PAPERS

ELBOING STEIN: VARIATIONAL BAYES WITH STEIN MIXTURE INFERENCE | ICLR 2025
O. RØNNING, E. NALISNICK, C. LEY, P. SMYTH, T. HAMELRYCK

ANCESTRAL PROTEIN SEQUENCE RECONSTRUCTION USING A TREE-STRUCTURED ORNSTEIN-UHLENBECK VARIATIONAL AUTOENCODER | ICLR 2022
L. S. MORETA, O. RØNNING, J. HEIN, D. BAKER, T. HAMELRYCK

AD FOR AN ARRAY LANGUAGE WITH NESTED PARALLELISM | SC 2022
R. SCHENCK, O. RØNNING, T. HENRIKSEN, C. E. OANCEA

INVITED TALKS & DISSEMINATION

Broad Institute of MIT & Harvard (2020) | Invited Talk

EinStein Variational Inference

International Conference on Probabilistic Programming (2020, 2021) | Poster

EinStein Variational Inference and Variational Energy Conserving Subsampling

University of Luxembourg (2022) | Invited Talk

General and Integrated Stein Variational Inference with EinStein

Computational and Methodological Statistics Conference (2023) | Invite Talk

Directional (protein) models as computer programs

NordicAI Meet (2023) | Poster

Bayesian Automatic Differentiation

University of Oxford (2025) | Invited Talk

ELBOing Stein: Variational Bayes with Stein Mixture Inference

Active Inference Institute (2025) | Invited Talk

ELBOing Stein: Variational Bayes with Stein Mixture Inference

TEACHING EXPERIENCE

UNIVERSITY OF COPENHAGEN

Co-advisor | M.Sc. Thesis (2025)

Efficient Bayesian Neural Networks with Spectral Weight Priors

Teaching Assistant | M.Sc. | 45 students (2021-2023)

Probabilistic Machine Learning

Master TA | M.Sc. | 350 students (2021-2023)

Machine Learning A

Co-advisor | M.Sc. Project (2022-2023)

Applications of Probabilistic ML Methods to Protein Generation

Primary Advisor | M.Sc. Project (2022-2023)

Rényi's α -divergence and Stein Variational Gradient Descent

Primary Advisor | M.Sc. Thesis (2022)

Generalising Stein Variational Gradient Descent Through Rényi's α -divergence

Internal Examiner (oral) | M.Sc. | 5-10 students (2021-2025)

Projects in Bioinformatics

Teaching Assistant | M.Sc. | 1-5 students (2020-2022)

Projects in Bioinformatics

Teaching Assistant | M.Sc. 300 students (2020)

Machine Learning

UNIVERSITY OF LUXEMBOURG

Invited Lecturer | M.Sc. | 30 students (2020-2021)

Advanced Statistics

NOVO NORDISK

Lecturer & Instructor | Professional Workshop | 35 attendees (5 x 2020)

Introduction to Data Science

AWARDS

DANISH DATA SCIENCE ACADEMY | Postdoc Fellowship 2025