

PhD Positions in Intelligent Use of Data for Process Optimization, Norwegian University of Science and Technology, The Department of Chemical Engineering, Norway.

Description

The Norwegian Open AI Lab (see ntnu.edu/ailab) currently has a vacancy for a postdoctoral position (postdoc), with location NTNU's Trondheim campus. The postdoc will mainly perform research on next-generation artificial intelligence and machine learning methods, taking advantage of recent advances in machine learning, stochastic optimization, probabilistic graphical models, and deep learning. The research results are expected to be applicable in several domains, including Internet of things (IoT), telecommunication, geoscience, natural language understanding, human computer interaction, etc.

The position reports to the Head of the Department, who is collaborating with Professor Ole Jakob Mengshoel in Computer Science at NTNU (see ntnu.edu/employees/ole.j.mengshoel) and Adjunct Faculty in Electrical and Computer Engineering at CMU (see ece.cmu.edu/directory/bios/mengshoel-ole.html). Feel free to contact him for further details at ole.j.mengshoel@ntnu.no.

Machine Learning (ML) is increasingly used in many different applications. Recent advances, for example in recommender systems, autonomous driving, natural language, and Web search, are partially due to substantial progress in ML. Within ML, recent and ongoing dramatic improvements in data acquisition capabilities are presenting new challenges and opportunities. For example, the new 5G pilot running in Trondheim from the autumn of 2019 presents exciting opportunities, as does ESA's Copernicus project (see scihub.copernicus.eu).

Despite several successes, the current state-of-the-art in ML suffers from some drawbacks, making it difficult to introduce in certain applications. In this research, we will investigate and develop novel ideas at the interface of machine learning, stochastic optimization, probabilistic graphical models, and deep learning in order to address some of the deficiencies in the field. Particular focus will be placed on AI that is not only accurate, but trustworthy and explainable. You will carry out research on this topic in collaboration with Prof. Ole J. Mengshoel. The focus will be on theory, methods, and data. Data may come from real-world sensors or from simulations.