

ODIN FOLDVIK EIKELAND

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PHD TECHNOLOGY | ENERGY ECONOMICS | MACHINE LEARNING

EDUCATION

UiT – the Arctic University of Norway Tromsø, Norway
Massachusetts Institute of Technology (MIT) (visiting Ph.D student) Cambridge, MA, USA

Ph.D. in Renewable Energy & Machine Learning

September 2019 – September 2023 (Expected)

Key research focus:

- Detecting faults in the electric power grid by applying machine-learning classification techniques
- Predicting complex and nonlinear time-series data with machine-learned neural networks
- Analyzing the value of using an emerging storage technology designed at our MIT lab to obtain cost-effective decarbonization of the electric power grid
- Cost-optimizing the electric power system using grid modeling tools designed at MIT

Teaching and supervision:

- Teaching classes in sustainable energy and physics at the master's degree and primary school level
- Supervising master students

Technical skills:

- *Software:* Electric power system optimization (GenX and ReEDS), PVsyst, ArcGIS, LaTeX
- *Programming:* Python, R, C++, Julia, MATLAB
- *Microsoft Office:* Word, Excel, PowerPoint, PowerBI

UiT – the Arctic University of Norway Tromsø, Norway

M.S. in Technology/Civil Engineer in Energy, Climate, and Environment

August 2014 – July 2019

Thesis: Investigation of Photovoltaic Energy Yield on Tromsøya by Mapping Solar Potential in ArcGIS

SELECTED FIRST AUTHOR JOURNAL PUBLICATIONS

- Value of Thermal Energy Grid Storage to Decarbonize Emerging Electric Power Grids (*in preparation 2023*)
- Power Availability of PV Plus Thermal Storage Units in Real-world Electric Power Grids (*Review Applied Energy*)
- Probabilistic Forecast of Wind Power Generations in Regions with Complex Topography Using Deep Learning Methods: An Arctic Case, *Energy Conversion and Management: X* (2022)
- Detecting and Interpreting Faults in Vulnerable Power Grids with Machine Learning, *IEEE Access* (2021)

SELECTED EXPERIENCE

Ishavskraft Power Company

Tromsø, Norway

Senior Consultant (25% secondary position besides Ph.D.)

January 2020 – Present

One of the largest utility companies in Norway mediating electricity and energy solutions

- Created and implemented the first solar energy program within the company
- Collaborated and closed a deal with the biggest solar energy company in Norway
- Managed teams of five to six employees
- Implementing offering green loans for customers investing in sustainable technologies in collaboration with the biggest national bank of Norway (DNB)
- Conducting analysis of energy data as part of new innovations strategies within the company
- Key role in developing the company sustainability strategy for 2021 to 2024
- Prepared technical reports for internal use and for marketing

Farmastat

Oslo, Norway

Statistician and IT consultant

March 2019 – September 2019

The Norwegian Medicine Statistics Company

- Analyzed and published medicine statistics data for global customers such as Pfizer and Novo Nordics
- Made demography maps to visualize the distribution of medicine sales in different regions of Norway
- Used prediction methodologies to predict expectations on future medicine sales

PRESENTATIONS AND MEDIA

Research presentations

- Nordic Workshop on Power and Industrial Electronics (NORPIE), Narvik, Norway (2019)
- Arctic Circle Conference, Reykjavik, Iceland (2019)
- International Conference on Intelligent Technologies and Applications (INTAP), Grimstad, Norway (2021)

Non-technical presentations

- The Royal Ministry of Petroleum and Energy (2021)
- Former Minister of Petroleum and Energy in Norway (Tina Bru) (2021)
- Minister for Research and Education (Ola Borten Moe) (2021)
- Podcast with Director for Innovation and Competence at the Housing Federation of Norway (NBBL) (2021)
- Keynote Speaker for the NBBL's "Ready for the Future" Conference (2021)

Media

- Portrait interview of me in the Europower magazine "*Promising talents below 30 years within the energy sector*": [Portrait interview \(in Norwegian\), Europower](#)
- How we can use AI to predict faults in the power system and thus save industries millions in lost revenue: [Interview \(in Norwegian\), Nrk](#)
- How solar energy could be a viable option for households in Norway: [Interview \(in Norwegian\), Bodøposten](#)

EXPERT RECOGNITION

Invited several times to be a reviewer for scientific journals such as the Springer journal.

LANGUAGES

English – Fluent
Norwegian – Native

ACTIVITIES

Bicycling (professional cyclist while studying for my master's degree), cross-country skiing (former top athlete), hiking, running, and traveling.