

Bjørn Christian Weinbach

RESEARCHER · PHD-STUDENT

Stenageimsvegen 34, 6857 Sogndal, Norway

☎ (+47) 458 82 126 | ✉ bcwein343@mail.com | 📷 bcwein | 🌐 bjørnchristianweinbach | 🐦 @bcwein | 🏠 Bjørn Christian Weinbach

Education

Western Norway University of Applied Sciences

PHD IN COMPUTER SCIENCE (ONGOING)

Sogndal and Bergen, Norway

Jan. 2023 -

- Ongoing PhD in Computer Science. Main area of focus is computer vision and object detection.

University of Stavanger

M.SC IN COMPUTER SCIENCE - DATA SCIENCE

Stavanger, Norway

Aug. 2020 - Jun. 2022

- Engineering degree in Computer Science with specialisation in Data Science.

Uppsala University

EXCHANGE SEMESTER

Uppsala, Sweden

Aug. 2021 - Jan. 2022

- Elective courses in computer science with specialisation in data science, stochastic machine learning, databases II and image analysis.

Norwegian University of Science and Technology

B.E. IN COMPUTER SCIENCE

Gjøvik, Norway

Jun. 2017 - Jun. 2020

- Engineering degree in computer science. Elective courses were Mathematics 3, Infrastructure as Code and Introduction to Artificial Intelligence.

Sogn og Fjordane County Municipality

CERTIFICATE OF APPRENTICESHIP: COMPUTER TECHNICIAN

Leikanger, Norway

Aug. 2015 - Jan. 2017

- Apprenticeship at the Sogn og Fjordane County Municipality.

Skills

Programming

Python, R, C++, C, SQL

Data Science

Statistics and Probability, Bayesian Inference, Monte Carlo methods, Pandas, Data Processing, Visualisation, Clustering, Dimensionality Reduction

Machine Learning

Traditional Models, Neural Networks, Stochastic Machine Learning, Convolutional Neural Networks for Image Analysis, Bayesian Networks, Fair Machine Learning

Software Engineering

Agile Software Engineering, Git, Project planning, UML, CI/CD, DevOps

Languages

English, Norwegian, Some German

Work Experience

Western Norway Research Institute

SUMMER INTERNSHIP / RESEARCHER / PHD STUDENT

Sogndal, Norway

Jun. 2021 - today

- Research Intern summer of 2021. Participated in Teknoløft Sogn og Fjordane with an aim of identifying data science applications in the region.
- Masters Thesis: Fairness and Interpretability in Machine Learning written together with University of Stavanger and Western Norway Research Institute.
- Full Time employee as of August 2022 working as a researcher in Teknoløft Sogn og Fjordane.
- PhD Student as of January 2023.

Norwegian Digitalisation Agency

SUMMER INTERNSHIP

Leikanger, Norway

Jun. 2020 - Aug. 2020

- Tasked with planning and developing a new application aimed at youth in Norway.
- Worked as back-end developer during the internship. Mostly using PHP and the Drupal 8 framework.

Norwegian University of Science and Technology.

TEACHING ASSISTANT

Gjøvik, Norway

Aug. 2018 - Jun. 2020

- Teaching assistant in Fundamental Programming in C++ fall of 2018 and 2019. Worked mainly by supervising and guiding first year students in weekly tasks and during assignments. Also graded assignments and helped students preparing for exams.
- Teaching assistant in Object-Oriented Programming in C++ sprint of 2019 and 2020. Worked mainly by supervising and guiding first year students in weekly tasks and during assignments. Also graded assignments and helped students preparing for exams.
- Teaching assistant in Algorithmic Methods in C++ sprint fall of 2019. Worked mainly by supervising and guiding second year students in weekly tasks and while preparing for exams.

Sogn og Fjordane County Municipality

COMPUTER TECHNICIAN & CUSTOMER SUPPORT

- Maintenance tasks in the windows server environment, customer support and other technical tasks.
- Worked here as an apprentice until January 2017. Employed as Computer Technician from January to May.

Leikanger, Norway

Aug. 2015 - May. 2017

Presentation

Moderator at lunch talk at Western Norway University of Applied Sciences

Sogndal, Norway

PANELDEBATT: KORLEIS KAN UNIVERSITETSSEKTOREN ENDRE SEG I MØTE MED KI?

Apr. 2023

- Moderated the discussion on AI in higher education.

Presenter at While1Create in Sogndal

Sogndal, Norway

WHILE1CREANTE - UTVIKLARSAMLING

Apr. 2023

- Introduced interpretability in machine learning for software engineers in the region.
- Demonstrated interpretability of linear regression.
- Showcased python code for the demonstration.

Presenter at Sogndal upper secondary school

Sogndal, Norway

ELEKTRO TIL VESTLANDSFORSKING + LITT OM KI

Apr. 2023

- Introduced certificate of apprenticeship as an alternative route to higher education.
- Presented introductory topics in machine learning and how it relates to ChatGPT.

Presenter at Framtidsfylket in Trondheim

Trondheim, Norway

FRAMTIDSFYLKET - TRONDHEIM

March. 2023

- Introduced The Western Norway Research Institute.
- Presented myself, my team, department and the Research areas of The Western Norway Research Institute.
- Encouraged students from The Norwegian University of Science and Technology to apply.

Lunch Presentation at the Western Norway University of Applied Sciences

Sogndal, Norway

FAGLUNSJ: BJØRN CHRISTIAN WEINBACH - KUNSTIG INTELLIGENS I AKADEMIA

Feb. 2023

- Introduced ChatGPT and Large Language Models.
- Discussed the challenges with Large Language Models and the future developments of the technology.
- Responded to questions about AI technologies and related technologies..

Presenter at Speedforskning at Western Norway University of Applied Sciences

Sogndal, Norway

SPEEDFORSKING

Sep. 2022

- Introduced the philosophical definitions of Information and Data.
- Presented Images as a valid and valuable data source.
- Discussed the rise of social media and the true value of data.

Writing

Hierarchical deep learning framework for automated marine vegetation and fauna analysis using ROV video data

Published in Ecological Informatics,
Elsevier

MAIN AUTHOR

2024

- Published an open-access research paper introducing FjordVision, a taxonomy-aware hierarchical framework that improves marine biodiversity analysis using deep learning and ROV data.
- Presented the Esefjorden Marine Vegetation Segmentation Dataset (EMVSD), consisting of 17,000 images and 30,000 labels, to support marine biodiversity studies.
- Highlighted the use of hierarchical CNN models for taxonomy-aware classification, refining YOLOv8 and Mask R-CNN outputs for higher accuracy across four taxonomic levels: binary, class, genus, and species.
- DOI: 10.1016/j.ecoinf.2024.102966

Vi mangler tillit til kunstig intelligens (English: People don't trust AI)

Chronicle. Published in Nettavisen

WRITER

May 24th 2023

- Wrote a chronicle for the online newspaper "Nettavisen". Due to the rise of generative AI and its applications since late 2022, trust in AI has declined further. Fortunately, there is a way to solve this crisis. Click here for link.

Organizing Committee

2023 **Organiser**, SAIDD | Symposium on AI, Data and Digitalization

Sogndal Norway

Extracurricular Activity

Red Party - Sogndal

LEADER AND BOARD MEMBER

- Established the red party as a local party in Sogndal.
- Elected for 1 year as local party leader
- Areas of interest include climate change, nature preservation and inequality.

Norway

Jan. 2023 - Present

Norwegian Society for the Conservation of Nature

BOARD MEMBER

- Elected as board member.
- Work area has been preservation of Sognefjorden and the local nature in the region of Indre Sogn.

Norway

Mar. 2023 - Present