

Jobbnorge-ID: 286274
Søknadsfrist: 06.10.2025
Nettside: <http://www.ntnu.no>
Omfang: Heltid
Varighet: Vikariat/Midlertidig

The [Department of Manufacturing and Civil Engineering](https://www.ntnu.edu/ivb), Faculty of Engineering, NTNU, has a vacancy for a

Phd Candidate in Deep Learning for Real-Time Monitoring of the future Norwegian Energy System

This is NTNU

NTNU is a broad-based university with a technical-scientific profile and a focus in professional education. The university is located in three cities with headquarters in Trondheim.

At NTNU, 9,000 employees and 43,000 students work to create knowledge for a better world.

You will find more information about working at NTNU and the application process [here](#).

Video: <https://youtu.be/Xt-yHCN5QS0>

About the position

To be able to facilitate the realization of Norway's climate objectives and facilitating creation of value for the society in general, the system operator of the Norwegian power system, [Statnett](#), needs in the near future to support the introduction of more production sources from solar and wind. To do this in a secure way Statnett needs to develop new ways of monitoring the Norwegian transmission grid, involving efficient AI tools along with efficient handling of big data with high time-series resolution.

To improve the efficiency in secure power supply through operations and monitoring, Statnett has installed a prototype of "Digital Substation". Digital Substation opens up the possibility for use of AI along with Edge Computing on large amounts of high-resolution time-series data. In order to take advantage of the full potential of these measurements, there is a strong need of developing AI algorithms able to do real-time analyses of such data.

Your immediate leader will be the Group leader of Manufacturing Engineering at IVB.

About the project

In this project, we will take advantage of collaborating with the academic environment connected to the large experiments at [CERN](#), the world's largest laboratory for experimental high-energy physics. The CERN experiments have been pioneering developments of ultra-fast deep learning algorithms for online monitoring and anomaly detection over the last decade.

The PhD candidate will in collaboration with Statnett, CERN, ETH Zürich, and the University of Oslo develop deep learning online monitoring and anomaly detection algorithms tailored to the specific characteristics of the data originating from Statnett's Digital Substation. Research stays at one or more of the collaborating institutions will be planned and regarded as essential for a successful realization of the project goals.

Duties of the position

- Complete the doctoral education until obtaining a doctorate
- Carry out research of good quality within the framework described above
- Academic publications and popular science dissemination
- Participate in international activities such as conferences and/or research stays at foreign educational institutions

Be prepared for changes to your work duties after employment.

Required selection criteria

- The appointment is carried out in accordance with the principles of the [State Employees Act](#), and [Export control](#) (legislation that regulates the export of knowledge, technology and services). Candidates who are considered to be in conflict with the criteria in the latter act, will not be assessed.
- You must have an academically relevant background within computer science, applied mathematics, physics, electrical engineering, or a related field.
- You must have a Master's degree or equivalent. Your course of study must correspond to a five-year Norwegian course, where 120 credits have been obtained at master's level.
- You must have a strong academic background from your previous studies and have an average grade from your Master's degree study, or equivalent education, which is equal to B or better compared to [NTNU's grading scale](#). If you do not have letter grades from previous studies, you must have an equally good academic foundation. If you have a weaker grade background, you may be considered if you can document that you are particularly suitable for a PhD education.
- You must meet the requirements for admission to the [Doctoral Programme at the Faculty of Engineering at NTNU](#).

PLEASE NOTE: For detailed information about what the application must contain, see paragraph "About the application".

The appointment is to be made in accordance with [NTNUs guidelines for recruitment positions](#) and [Regulations for the degrees philosophiae doctor \(ph.d.\) and philosophiae doctor \(ph.d.\) in artistic development work at the Norwegian University of Science and Technology \(NTNU\)](#) for general criteria for the position.

Preferred selection criteria

- Scientific publications are an advantage
- Experience in research project works
- Good knowledge and experience in the use and development of machine learning algorithms

Personal characteristics

To complete a doctoral degree (PhD), it is important that you are able to:

- Work independently, in a structured way, set goals and make plans to achieve them
- Present and discuss your research with other professionals
- Show curiosity and a strong motivation for the subject
- Be flexible and open to adjusting the plan for the project as needed

Emphasis will be placed on personal qualities.

We offer

Evaluate and remove/add what is relevant for the position.

- An exciting job with an important [mission](#) in society
- Developing tasks in a strong and international professional environment
- Career guidance and [follow-up during the PhD period](#)
- Open and inclusive working environment with committed colleagues
- As a public employee, you have favorable benefits as a member of the [Norwegian Public Service Pension Fund \(SPK\)](#).

You will be employed as a PhD Candidate at NTNU and will have access to [employee benefits and discounts](#).

Diversity

Diversity is a strength, and at NTNU we aim to be an employer that reflects the diversity in society and that makes use of the potential of the population's collective skills. Our vision is [Knowledge for a better world](#) and [our values are creative, critical, constructive and respectful](#). We believe that an organization that is equal, diverse and gender-balanced is essential for us to achieve our goals.

We strive to attract employees with different skills, life experiences and perspectives to contribute to even better problem solving of our societal mission in research and education.

If you think this position is relevant and interesting, we encourage you to apply, regardless of gender, functional ability and cultural background, or whether you have been out of work for a period of time.

At NTNU we want to increase the proportion of women in scientific positions. We have a number of [measures](#) to promote equality.

Salary and conditions

In the position of PhD Candidate, code 1017, your gross salary will normally be NOK 550 800,-per annum depending on qualifications and seniority. A 2% statutory contribution to the State Pension Fund is deducted from the salary.

For employment as a PhD Candidate, it is a prerequisite that you gain admission to the PhD programme in [PhD in Engineering \(Doctoral Programme\) 3 years - Trondheim - NTNU](#) within three months of your employment contract start date, and that you participate in an organized doctoral programme throughout the period of employment.

As an employee at NTNU, it is important that you keep yourself up to date with academic and organizational changes and adapt to them.

For the necessary professional and social interaction, it is a prerequisite that you are physically present and available to the institution on a daily basis.

The appointment is carried out in accordance with the principles of the [State Employees Act](#), and [Export control](#) (legislation that regulates the export of knowledge, technology and services). Candidates who are considered to be in conflict with the criteria in the latter act, will not be able to be employed.

About the application

The attachments (including a description of your scientific work) must accompany the application as these documents form the basis of the application assessment. The documents must be in Norwegian/a Scandinavian language or English.

Please note: the application will only be assessed on the basis of the information we have received by the application deadline. Therefore, make sure that your application clearly shows how your skills and experience meet the criteria described above. The application and all attachments must be sent electronically via [Jobbnorge.no](#). If you are invited to an interview, you must bring certified copies of certificates and diplomas upon request.

The application must include:

- Transcripts and diplomas for Bachelor's and Master's degrees
- CV
- Copy of Master's thesis
- Your research plan (or research proposal) for the position (maximum one page)
- Short letter of motivation (400 words/1 page)
- Possibly publications etc. other relevant research work
- Possibly certificates
- Names and contact information of three relevant referees

If all, or parts, of your education has been taken abroad, we also ask you to attach documentation of the scope and quality of your entire education, both Bachelor's and Master's education, in addition to other higher education. If your institution uses "diploma supplement" (normal for most European institutions), you must attach this. A description of the documentation required can also be found [here](#). If you already have a statement from [Norwegian Directorate for Higher Education and Skills \(HK-dir\)](#), please attach this as well.

Joint work will be considered. If it is difficult to identify your contribution to joint work, you must attach a brief description of your participation.

When assessing the best qualified, we emphasize necessary qualifications such as education, experience and personal suitability. Motivation for the position, ambitions, and potential for research will also count when assessing the candidates.

NTNU recognizes a wide range of academic contributions and has committed itself to [The San Francisco Declaration on Research Assessment](#) and [CoARA](#) (responsible assessment of research and recognition of a greater breadth of academic contributions in accordance with NTNU's social mission).

General information

A public list of applicants with name, age, job title and municipality of residence is prepared after the application deadline. If you wish to be exempt from entry on the public applicant list, this must be justified. Assessment will be made in accordance with [current legislation](#). You will be notified if the exemption is not granted.

If you think this position looks interesting and in line with your qualifications, you are welcome to apply.

If you have any questions about the position, please contact Professor Are Strandlie, email are.strandlie@ntnu.no

If you have any questions about the recruitment process, please contact HR Advisor Kristine Rognlid Hagaseth, e-mail kristine.r.hagaseth@ntnu.no

Application deadline: 06.10.2025

For practical information about [working at NTNU](#), please visit [this webpage](#).

Gjøvik, a charming town by the shores of Lake Mjøsa, is known for its beautiful nature and rich cultural offerings. The town boasts a vibrant community with excellent schools, modern healthcare services, and a variety of recreational activities. With its strategic location, just a short drive from Oslo, Gjøvik combines the best of urban life and natural experiences. Here, you'll find a dynamic business environment and exciting career opportunities in a setting that values work-life balance.

NTNU - knowledge for a better world

NTNU - knowledge for a better world

The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

Department of Manufacturing and Civil Engineering

Our profile of expertise can help to solve the world's most important societal challenge: the development of sustainable solutions in industry and society. This profile includes research on modern industrial processes, use of new and recycled materials, new technological solutions and the application of new forms of organization and business models. The [Department of Manufacturing and Civil Engineering](#) is one of eight departments in the [Faculty of Engineering](#).

Tilleggsinformasjon

Arbeidssted:

Teknologivegen 22 2815 Gjøvik (Gjøvik Kommune)