Jobbnorge ID: 286271
Deadline: 10/10/2025
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Temporary

The Department of Electronic Systems has a vacancy for a

PhD Candidate in Machine Learning & Signal Processing for Industrial Applications

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

The Department of Electronic Systems has a vacancy for 1 PhD Research Fellow in Machine Learning & Signal Processing for Industrial Application. The successful candidate will be offered a 3-year position (or 4-year with 25% work assignments for the Department).

Are you motivated to take a step towards a doctorate and open up exciting career opportunities? As a PhD Candidate with us, you will work to achieve your doctorate, and at the same time gain valuable experience that qualifies you for a further career in higher education and research, inside and outside of academia.

Your immediate leader will be the Head of Department. The work place will be Trondheim (relocation to Porsgrunn could be considered if desired).

About the project

The position is linked to the project LeDAS, funded by the Research Council of Norway and in collaboration with NORCE, SINTEF, UiB, Equinor, and Aker BP. Big data, Internet of Things (IoT) and artificial intelligence (AI) represent key enablers of the digital transformation. The main objectives of the project include the development and the integration of signal processing and machine learning methodologies aiming to interpret distributed acoustic sensing (DAS) data from production wells (both new and previously acquired sensor data). The main use cases for the position are related to virtual flow metering and well inflow applications. Research tasks include feature identification and selection for robust and trustworthy models.

The PhD candidates will have the opportunity to be affiliated with the program BRU21, with the IoT@NTNU, and with the Norwegian Open AI lab, and to collaborate with research scientists from international partner institutions.

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 the research group Signal Processing
- 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

- You must have a relevant Master's degree in Electrical Engineering, Computer Science, Applied Mathematics, or equivalent in related relevant disciplines. Your course of study must correspond to a five-year Norwegian course, where 120 credits have been obtained at

master's level. Master students can apply, but the master's degree must be obtained and documented before starting the position and no later than 30.09.2025.
- 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 based on 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 PhD Program in Electronics and Telecommunication.
- Good oral and written presentation skills in English equivalent to level C1.
- Strong mathematical background and research-oriented master thesis in a related field (e.g., signal processing, statistical machine learning, applied mathematics).
- Significant experience with programming in Python.

PLEASE NOTE: For detailed information about what the application must contain, see the 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

- Experience in process monitoring.
- Publication activity in the aforementioned disciplines.
- Good oral and written presentation skills in Norwegian/Scandinavian equivalent level B1

Personal characteristics

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

- Work in a structured way, set goals, and make plans to achieve them
- Present and discuss your research with other professionals
- Get involved and contribute constructively with feedback
- Work constructively under pressure or in the face of adversity
- Show curiosity and a strong motivation for the subject

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
- Favorable terms as a member of the Norwegian Public Service Pension Fund (SPK)

As a PhD Candidate at NTNU, you will have access to employee benefits.

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.

The employment period is 3 years.

For employment as a PhD Candidate, it is a prerequisite that you gain admission to the PhD Program in Electronics and Telecommunication within three months of your employment contract start date, and that you participate in an organized doctoral program throughout the period of employment.

The position is conditional on external funding.

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, after assessment of the application and attachments, are considered to be in conflict with the criteria in the latter act, will not be able to be employed. Due to the export control regulations, applicants who are not citizens of countries within the EEA or associated with the WA (Wassenaar Arrangement), may not be eligible for the position

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 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 besent 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:

- Certified copies of transcripts and diplomas for Bachelor's and Master's degrees
- CV including information about education background and work experience
- Copy of Master's thesis. If you have recently submitted your Master's thesis, you can attach a draft of the thesis. Documentation of a completed Master's degree must be presented before taking up the position.
- Project outline containing proposals for an overall description of research questions, theoretical perspectives, methodological design for the project and progress plan (maximum 2 pages)
- Short letter of motivation (maximum 1 page)
- Names and contact information of two 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 Pierluigi Salvo Rossi (email: pierluigi.salvorossi@ntnu.no).

Application deadline: 10.10.2025

For practical information about working at NTNU, please visit this webpage.

The city of Trondheim is a modern European city with a rich cultural scene. Trondheim is the tech capital of Norway with a population of 200,000. The Norwegian welfare state, including healthcare, schools, kindergartens and overall equality, is probably the best of its kind in the world. Professional subsidized day-care for children is easily available. Furthermore, Trondheim offers great opportunities for education (including international schools) and possibilities to enjoy nature, culture and family life and has low crime rates and clean air quality.

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

Department of Electronic Systems

The digitalization of Norway is impossible without electronic systems. We are Norway’s leading academic environment in this field, and contribute with our expertise in areas ranging from nanoelectronics, phototonics, signal processing, radio technology and acoustics to satellite technology and autonomous systems. Knowledge of electronic systems is also vital for addressing important challenges in transport, energy, the environment, and health. The Department of Electronic Systems is one of seven departments in the Faculty of Information Technology and Electrical Engineering .

Additional information

Contact person:

Pierluigi Salvo Rossi, Professor
Phone: | E-mail: pierluigi.salvorossi@ntnu.no

Place of service:

Høgskoleringen 1 7491 Trondheim (Trondheim Municipality)