

Jobbnorge ID: 237254
Deadline: 3/15/2023
Website: <http://www.ntnu.no>
Scope: Fulltime
Duration: Temporary

The Department of Computer Science has a vacancy for a

PhD Candidate within Artificial Intelligence for Anomaly Detection

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 44,000 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 job

For a position as a PhD Candidate, the goal is a completed doctoral education up to an obtained doctoral degree.

Wireless embedded sensor nodes can perform increasingly complex inference tasks directly on the device. This makes such devices suitable for instrumenting a large number of machines, equipment or other items with the goal to detect anomalies in their operation. The problem remains to learn what constitutes anomalies that should be reported and distinguish them from normal changes in operation or variations between devices. Together with partners in the NorwAI SFI, the candidate will work on methods and prototypes to detect and classify anomalies, study transfer learning between devices, and explore how expert knowledge can be considered in the specific setting of distributed and streaming sensor data.

We anticipate the starting date for the candidate is during spring 2023.

Your immediate leader is the leader of NorwAI SFI.

Duties of the position

The main duties and responsibilities for the position are:

- Conducting research within AI for anomaly detection in collaboration with the supervisors and other members of the research group.
- Test and evaluate the solution in simulated and real environments.
- Disseminate results through publications and presentations.

Required selection criteria

- You must have a professionally relevant background in Artificial Intelligence (Master specialization, Master thesis, project experience, etc.).
- Your education must correspond to a five-year Norwegian degree program, where 120 credits are obtained at master's level.
- You must have a strong academic background from your previous studies and an average grade from the master's degree program, or equivalent education, which is equal to B or better compared with NTNU's grading scale. If you do not have letter grades from previous studies, you must have an equally good academic basis. If you have a weaker grade background, you may be assessed if you can document that you are particularly suitable for a PhD education.
- You must meet the requirements for admission to the [faculty's doctoral programme](#).
- Practical experience using Python.

The appointment is to be made in accordance with [Regulations concerning the degrees of Philosophiae Doctor \(PhD\) and Philosodophiae Doctor \(PhD\) in artistic research national guidelines for appointment as PhD, post doctor and research assistant](#)

Preferred selection criteria

- Excellent programming skills, especially in Python.

- Experience with AI projects (development, deployment, experimentation).
- Experience with processing of sensor data or anomaly detection.
- Good written and oral English language skills.

Personal characteristics

- Ability to take initiative and work independently.
- A positive and professional attitude as well as being a good team-worker.
- Social adaptability and communication skills.
- Willingness to learn new skillsets.

Emphasis will be placed on personal and interpersonal qualities.

We offer

- exciting and stimulating tasks in a strong international academic environment
- an open and [inclusive work environment](#) with dedicated colleagues
- favourable terms in the [Norwegian Public Service Pension Fund](#)
- [employee benefits](#)

Salary and conditions

As a PhD candidate (code 1017) you are normally paid from gross NOK 501 200 per annum before tax, depending on qualifications and seniority. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is 3 years (with the option of 4 years and taking on teaching duties).

Appointment to a PhD position requires that you are admitted to the [PhD programme in Computer Science](#) within three months of employment, and that you participate in an organized PhD programme during the employment period.

The engagement is to be made in accordance with the regulations in force concerning [State Employees and Civil Servants](#), and the acts relating to Control of the Export of Strategic Goods, Services and Technology. Candidates who by assessment of the application and attachment are seen to conflict with the criteria in the latter law will be prohibited from recruitment to NTNU.

After the appointment you must assume that there may be changes in the area of work.

It is a prerequisite you can be present at and accessible to the institution daily.

About the application

The application and supporting documentation to be used as the basis for the assessment must be in English.

Publications and other scientific work must follow the application. Please note that applications are only evaluated based on the information available on the application deadline. You should ensure that your application shows clearly how your skills and experience meet the criteria which are set out above.

The application must include (Departments to choose from the following):

- CV, certificates and diplomas.
- Transcripts and diplomas for bachelor's and master's degrees. If you have not completed the master's degree, you must submit a confirmation that the master's thesis has been submitted.
- A copy of the master's thesis. If you recently have 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.
- Research statement (max. 3 pages) including
 - A short presentation of the motivation for a PhD study
 - How the applicant sees his/her background suitable to the position
 - The applicant's view of research challenges for the selected PhD position, as well as his/her theoretical and methodological approach to the challenges.
- Name and address of three references
- If you have publications or other relevant research work

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. Description of the documentation required can be found [here](#). If you already have a statement from NOKUT, please attach this as well.

We will take joint work into account. If it is difficult to identify your efforts in the joint work, you must enclose a short description of your participation.

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal and interpersonal qualities. Motivation, ambitions, and potential will also count in the assessment of the candidates.

NTNU is committed to following evaluation criteria for research quality according to [The San Francisco Declaration on Research Assessment - DORA](#).

General information

[Working at NTNU](#)

NTNU believes that inclusion and diversity is our strength. We want to recruit people with different competencies, educational backgrounds, life experiences and perspectives to contribute to solving our social responsibilities within education and research. We will facilitate for our employees' needs.

NTNU is working actively to increase the number of women employed in scientific positions and has a number of resources to [promote equality](#).

The city of Trondheim is a modern European city with a rich cultural scene. Trondheim is the innovation 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.

As an employee at NTNU, you must at all times adhere to the changes that the development in the subject entails and the organizational changes that are adopted.

A public list of applicants with name, age, job title and municipality of residence is prepared after the application deadline. If you want to reserve yourself 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 reservation is not accepted.

If you have any questions about the position, please contact Frank Alexander Kraemer, email kraemer@ntnu.no. If you have any questions about the recruitment process, please contact HR, e-mail: HR@idi.ntnu.no

If you think this looks interesting and in line with your qualifications, please submit your application electronically via jobbno.no with your CV, diplomas and certificates attached. Applications submitted elsewhere will not be considered. Upon request, you must be able to obtain certified copies of your documentation.

Application deadline: 15.03.23

NTNU - knowledge for a better world

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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 Computer Science

We are the leading academic IT environment in Norway, and offer a wide range of theoretical and applied IT programmes of study at all levels. Our subject areas include hardware, algorithms, visual computing, AI, databases, software engineering, information systems, learning technology, HCI, CSCW, IT operations and applied data processing. The Department has groups in both Trondheim and Gjøvik. The [Department of Computer Science](#) is one of seven departments in the [Faculty of Information Technology and Electrical Engineering](#).

Additional information

Place of service:

Campus Gløshaugen 7034 Trondheim (Trondheim Municipality)