NTNU
Norwegian University of Science and Technology

Jobbnorge ID: 294391
Deadline: 28.02.2026
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Temporary

The Department of ICT and Natural Sciences has a vacancy for a

PhD Candidate in Secure and Trustworthy Data Sharing for Maritime AI Model Development

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

Digitalization and artificial intelligence (AI) are transforming society, and the integration of AI into the maritime industry represents a digital shift that will redefine today's operations. The maritime industry is increasingly embracing AI, enabling a broad digital transformation. Data sharing between maritime stakeholders is a key enabler for accelerating the operationalization of AI across maritime value chains. This PhD project therefore calls for research on secure and trustworthy data sharing.

The development and refinement of maritime AI models depend on access to large amounts of high-quality operational data. However, data sharing across organisational and sectoral boundaries is often constrained by concerns related to data ownership, confidentiality, cybersecurity risks, and trust. These challenges represent barriers to the safe and responsible use of AI in the maritime domain.
This PhD project will investigate how cybersecurity risks influence data sharing for maritime AI model development. The project will have an interdisciplinary approach, combining insights from information security, maritime operations, data engineering, and data governance.

The research will include structured review of relevant literature, exploratory studies with industry partners and the development of methods or frameworks to support secure and trusted data sharing for maritime AI model development. Depending on the candidate's background and the project's progression, the research may include methods such as anomaly detection techniques or simulation-based testing.

This position offers the opportunity to work at the intersection of cybersecurity, data sharing, and maritime AI in close collaboration with academic and industrial partners. The research outcomes are expected to contribute knowledge on cybersecurity-related barriers and frameworks to support secure and trustworthy data sharing across maritime AI use cases.

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, in and outside academia.

Your immediate leader will be the Head of Department.

About the project

The candidate will work in a multidisciplinary research environment located at the heart of the maritime industry in Ålesund. Working at the NTNU department of ICT and Natural Sciences ensures close contact with the industry and research communities.

The PhD project will be part of the Norwegian Maritime AI Center that aims to accelerate operationalization of AI in the maritime value chains. The center shall position the maritime sector for accelerated and successful use of AI. The demand for safe and sustainable maritime activities, as well as the shortage of crew and engineers, are key drivers for change in the maritime sector. At the same time, there is a pull for growth, increased efficiency and profitability, while managing volatility in the markets. Moreover, the sector is critically important for global supply chains and security in a tense geopolitical situation. To demonstrate and prototype maritime AI solutions, the center will address a diverse and impactful set of use cases: Logistics, shipping and business transactions; Ship design and construction; Voyage planning and optimization; Condition monitoring and maintenance; Crew training; Maritime traffic and ship surveillance; Decarbonization and energy management; Autonomous ships and remote control.

The research partners are the Norwegian University of Science and Technology (NTNU), University of Oslo, Oslo School of Architecture and Design, Royal Norwegian Naval Academy, Norwegian Mapping Authority, MET and SINTEF Nordvest. There are about 30 user partners from the maritime sector, in addition to hundreds of members of the Maritime Forum, Blue Maritime, Ocean Autonomy, and Maritime CleanTech clusters. The center will be a hub, orchestrating the interfaces with research partners and user partners to facilitate collaboration, knowledge creation, dissemination, innovation, and sharing of knowledge. The Norwegian Maritime AI Center is funded by the Research Council of Norway and the partners for the period 2026-2030. There will be approximately 25 doctoral scholarships and some postdoc positions. More information can be found here: https://www.ntnu.edu/mai

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.

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 Cyber-Physical Systems Laboratory (CPS Lab)
- Participate in activities in the maritime AI center
- Participate in international activities such as conferences and/or research stays at foreign educational institutions
- Participate in relevant dissemination activities for the industry

Be prepared for changes to your work duties after employment.

Required selection criteria

- You must have a relevant master's degree in information security, data engineering, computer science, maritime operative management or equivalent. 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 30.01.2026.
- 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 faculty's Doctoral Programme.
- Written and oral fluency in English. Applicants with MSc degrees from institutions outside Europe are expected to document language proficiency. In extraordinary circumstances, formal documentation of language skills can be relinquished. In such cases, the candidate's language skills will be assessed in a personal interview.
- The person hired must be eligible for security clearance at level KONFIDENSIELT.

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

- Knowledge of and network in the maritime industry
- Knowledge or interest in artificial intelligence (AI)
- Background in mixed methods (qualitative/quantitative methods)
- Familiarity with programming or computational methods
- Familiarity with cybersecurity, privacy, or data protection challenges in maritime or other safety-critical domains
- Good oral and written presentation skills in Norwegian/Scandinavian equivalent level B2

Personal characteristics

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

- Work independently and in research teams
- Work in a structured way, set goals and make plans to achieve them
- Be flexible and open to adjusting the plan for the project as needed
- Present and discuss your research with other professionals
- Analyze data, assess different perspectives and draw well-founded conclusions
- Good interpersonal skills that contribute to a friendly and inclusive work environment

Emphasis will be placed on personal qualities.

We offer

- 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
- Working capital that can be used to implement the project
- Mentor programme as a new employee at NTNU
- Favorable terms as a member of the Norwegian Public Service Pension Fund (SPK)
- Free Norwegian language training at a basic level (A2)

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. (delete if not applicable)

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 programme in engineering within three months of your employment contract start date, and that you participate in an organized doctoral programme 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.

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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. 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 1500 words/4 pages)
- 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 Associate Professor Marie Haugli-Sandvik, email: marie.h.sandvik@ntnu.no or Rune Volden, email: rune.volden@ntnu.no. If you have any questions about the recruitment process, please contact HR Consultant Silje Storbråten Kjersem, email: silje.s.kjersem@ntnu.no.

Application deadline: 28.02.2026

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

Ålesund, known for its unique Art Nouveau architecture and spectacular nature, is a gem on Norway's west coast. The city offers a vibrant cultural life, modern facilities, and a dynamic business environment. With its strategic location by the sea, Ålesund provides a perfect balance between urban living and natural experiences. Here, you will find excellent schools, top-notch healthcare services, and a wide range of recreational activities. Ålesund is an ideal place for both career and family life, with a safe and inclusive community.

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 ICT and Natural Sciences

Our campus in Ålesund works in a partnership with industry that is in a class of its own among Norwegian universities. This ensures a practical focus for our study programmes, while they are firmly anchored in modern theory. The Department offers programmes in automation engineering, computer engineering, electric power systems, simulation and visualization. Our research areas include autonomous vessels, robotics, cybernetics, medical technology and health informatics, and artificial intelligence. The Department of ICT and Natural Sciences is one of seven departments in the Faculty of Information Technology and Electrical Engineering .

Additional information

Contact persons:

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- Rune Volden,
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Place of service:

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