



NTNU

Kunnskap for en bedre verden

Jobbnorge ID: 297161
Deadline: 4/25/2026
Website: <http://www.ntnu.no>
Scope: Fulltime
Duration: Temporary

The Department of Ocean Operations and Civil Engineering has a vacancy for a

PhD Candidate in Human-Centered Interactive AI Agents for Maritime Simulator Training

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 maritime industry faces increasing demands for safe and efficient operations due to growing traffic, more complex vessels, and higher safety requirements. Simulator-based training is essential for preparing maritime professionals, but it relies heavily on experienced human instructors, whose availability is limited.

Recent advances in artificial intelligence, especially large language models (LLMs), enable the development of interactive AI agents that can support human learning in complex, safety-critical environments. Human-centered AI in this project means that the agent will learn from simulator data and expert knowledge, and will be designed to work collaboratively with trainees and instructors rather than replacing them. The AI agents will leverage LLMs for knowledge acquisition, natural language interaction, and decision support, while integrating simulator data and multimodal inputs to provide timely guidance, feedback, and post-training analysis.

This PhD project aims to develop human-centered interactive AI agents for maritime simulator training. The research will investigate how LLM-driven agents can perceive and interpret dynamic maritime environments, collaborate with human trainees during simulator sessions, provide transparent explanations for their actions, and adapt their support to individual training needs

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.

Duties of the position

- Complete the doctoral education until obtaining a doctorate
- Set up research plans with the help of the supervision team and conduct them accordingly
- Academic publications and popular science dissemination
- Take lead in research idea generation and research paper writing
- Collaborate closely with other PhD candidates and project partners to share knowledge, integrate findings, and coordinate research activities
- 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 computer science, automation related engineering 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.

- 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 in Engineering

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

- You demonstrate a strong motivation for the position
- You have experience of LLM and related projects
- You demonstrate knowledge/experience in AI and data-driven approaches

Personal characteristics

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

- Work independently as well as in a cross disciplinary team
- 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
- Show enthusiasm and a strong motivation for the subject
- Analyze data, assess different perspectives and draw well-founded conclusions
- Be flexible and open to adjusting the plan for the project as needed
- Communicate well in English

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
- Open and inclusive working environment with committed colleagues
- 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 through out 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, 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.

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 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)
- 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 Houxiang Zhang, email: hozhang@ntnu.no

If you have any questions about the recruitment process, please contact PhD Coordinator Lara Bromann, e-mail: lara.bromann@ntnu.no

Application deadline: 25.04.2026

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 Ocean Operations and Civil Engineering

We aim to be a hub of international knowledge and innovation in maritime operations. This involves education and research on the design of ships and marine equipment as well as on the operation of vessels. Maritime operations integrate technology, human factors and business. The interfaces between these areas often spark inspiration for innovation and new solutions. [The Department of Ocean Operations and Civil Engineering](#) is one of eight departments in [the Faculty of Engineering](#).

Additional information

Contact persons:

- Houxiang Zhang, Professor
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- Lara Bromann, PhD Coordinator
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Place of service:

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