



RITMO Centre for Interdisciplinary Studies in Rhythm, Time and Motion

Doctoral Research Fellowship(s) in Psychology-Inspired Computing for Robot Assistants

Job description

One or two Doctoral Research Fellowships (SKO 1017) in psychology-inspired computing for robots are available as a part of the research project [Predictive and Intuitive Robot companion \(PIRC\)](#). The project is affiliated with [RITMO Centre for Interdisciplinary Studies in Rhythm, Time and Motion](#) at the University of Oslo.

RITMO is a Centre of Excellence funded by the Research Council of Norway. This interdisciplinary centre focuses on rhythm as a structuring mechanism for the temporal dimensions of human life. Methods from musicology, psychology, neuroscience, and informatics are combined to study rhythm as a fundamental property that shapes and underpins human cognition, behaviour and cultural expressions.

All RITMO researchers are co-located and work in a unique interdisciplinary constellation, with world-leading competence in musicology, psychology and informatics. It is expected that all members of the centre contribute to the general activities and collaborations within RITMO. The researchers have access to state-of-the-art facilities in sound/video recording, motion capture, eye tracking, physiological measurements, various types of brain imaging (EEG, fMRI), and rapid prototyping and robotics laboratories.

More about the position

The PhD Research Fellow(s) will work on psychology-inspired computing for robot assistants. That is, the objective of the position is to create prediction methods for proactive planning of future robot actions and to design robot acting mechanisms for adaptive response ranging from quick and intuitive to slower well-reasoned. We combine sensing across multiple modalities with learned knowledge to predict outcomes and choose the best actions. The goal is to transfer these skills to intelligent systems in human-robot interactive scenarios to be supporting people in their own homes. This is with regard to everyday tasks and support in physical rehabilitation. Thus, it is relevant to work with implementation and research within robot perception and control for the robot tasks.

In addition, user studies through human robot interaction experiments are to be performed. Three people (PhD fellows and researchers) are to be hired for the project and will complement in performing the above outlined research.

The appointment is for a period of three years, starting 15 August 2021. There might be a possibility to extend the appointment to 4 years depending on the qualifications of the recruited candidate, the department's need for teaching, and the centre's need for assistance.

Qualification requirements

- A Master's degree in computer science, robotics, computational psychology or other relevant field. The applicant is required to document that the degree corresponds to the profile for the post. The Master's Degree must have been obtained by the time of application.
- A strong background in programming, as well as machine learning/artificial intelligence and/or robotics. Lack of knowledge in robotics control and sensing can be compensated with knowledge and experience in human-robot interaction.
- Skills in psychology-inspired computing models, user-centered design, human behaviour modelling, human-robot interaction, motion tracking and analysis, and robot simulation, perception and control are an advantage. Further, having scientific publications would be an advantage.
- Personal suitability and motivation for the position
- [Excellent skills in written and oral English](#)

Grade requirements

The norm is as follows:

- the average grade point for courses included in the Bachelor's degree must be C or better in the Norwegian educational system
- the average grade point for courses included in the Master's degree must be B or better in the Norwegian educational system
- the Master's thesis must have the grade B or better in the Norwegian educational system
- Fluent oral and written communication skills in English and optionally a Scandinavian language.
- English requirements for applicants from outside of EU/ EEA countries and exemptions from the requirements: <http://www.mn.uio.no/english/research/phd/application/application.html>

The Faculty of Mathematics and Natural Sciences has a strategic ambition of being a leading research faculty. Candidates for these fellowships will be selected in accordance with this, and expected to be in the upper segment of their class with respect to academic credentials.

The purpose of the fellowship is research training leading to the successful completion of a PhD degree. The fellowship requires admission to the PhD programme at the Faculty of Mathematics and Natural Sciences. The application to the PhD programme must be submitted to the department no later than two months after taking up the position. For more information see:

[Doctoral degree and PhD at the University of Oslo](#)

In assessing the applications, special emphasis will be placed on:

- The applicant's scientific merit, as well as the quality of the [research outline](#) and its relevance to the research objectives of PIRC and RITMO
- The applicant's estimated academic and personal ability to complete the project within the time frame
- The applicant's ability to complete research training
- Very good collaboration skills and an ability to join interdisciplinary academic communities

Applicants who have recently graduated with excellent results may be given preference.

We offer

- salary NOK 482 200 - 526 000 per annum depending on qualifications in a position as PhD Research fellow (position code 1017)
- a professionally stimulating working environment
- [attractive welfare benefits](#)[Norwegian Public Service Pension Fund](#)
- membership in the

How to apply

Applicants must submit the following attachments with the electronic application, preferably in pdf format:

- Application letter describing the applicant's qualifications and motivation for the position
- Curriculum Vitae (complete list of education, positions, teaching experience, administrative experience and other qualifying activities, including a complete list of publications with links to full version of published papers)
- Research outline, including relevant research questions and theoretical and methodological approaches (approximately 2-3 pages, see [template for research outline](#))
- Transcript of records of your Bachelor's and Master's degree. Applicants with education from a foreign university are advised to attach an explanation of their university's grading system
- [Documentation of English proficiency](#)
- Names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone number)

Please note that all documents must be in English.

Educational certificates, master theses and the like are not to be submitted with the application, but applicants may be asked to submit such information or works later.

Short-listed candidates may be invited for an interview at the University of Oslo or we will arrange for a video-based interview.

Formal regulations

Please see the [guidelines and regulations](#) for appointments to Research Fellowships at the University of Oslo.

No one can be appointed for more than one PhD Research Fellowship period at the University of Oslo.

According to the Norwegian Freedom of Information Act (Offentleglova) information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

The appointment may be shortened/given a more limited scope within the framework of the applicable guidelines on account of any previous employment in academic positions.

The University of Oslo has an [Acquisition of Rights Agreement](#) for the purpose of securing rights to intellectual property created by its employees, including research results.

The University of Oslo aims to achieve a balanced gender composition in the workforce and to recruit people with ethnic minority backgrounds.

Contact information

Professor Jim Tørresen, e-mail: jimtoer@ifi.uio.no, phone +47 22852454

HR Adviser Hilde Kristine Sletner, e-mail: h.k.sletner@hf.uio.no

About the University of Oslo

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