



RESEARCH ASSOCIATE FOR THE PROJECT “MORESPACE” MODELING A ROBOT’S PERIPERSONAL SPACE AND BODY SCHEMA FOR ADAPTIVE LEARNING AND IMITATION § 28 SUBSECTION 3 HMBHG

Institution: Faculty of Mathematics, Informatics and Natural Sciences, Department of Informatics, Knowledge Technology Research Group

Salary level: EGR. 13 TV-L

Start date: 01.08.2022 or as soon as possible, fixed for a period of three years (This is a fixed-term contract in accordance with Section 2 of the academic fixed-term labor contract act [Wissenschaftszeitvertragsgesetz, WissZeitVG]).

Application deadline: 2022-06-19

Scope of work: full-time position suitable for part-time

Responsibilities

Duties include academic services in the project named above. Research associates may also pursue independent research and further academic qualifications.

Specific Duties

This novel exciting project MoreSpace concentrates on research, design, development and evaluation of neurocomputational deep learning methods for intelligent robot assistants to explore human-robot interaction.

In particular the project MoreSpace includes research into modeling a robot’s peripersonal space and body schema for adaptive learning and imitation. Our research questions focus on a) adaptive decision-making with conflicting sensations and b) on self-other transfer and imitation learning. We will develop a novel conflict-driven attention mechanism by considering psychological phenomena that involve conflicting sensations. Furthermore, we will develop learning from observation by developing a projection mechanism to map an observer’s body schema to an observed agent.

We expect the resulting framework to improve the capabilities of robotic agents to handle conflicting sensor data and to improve human-robot interaction scenarios in the context of the different morphologies of the NICO and NICOL robots. Our experiments will take place in a table-top scenario and mainly involve object manipulation experiments, including block-stacking and tool-use tasks. Together with our collaborators, we will first conduct robot-robot interaction and later human-robot-interaction experiments. More info about the MoreSpace project and our research at <https://www.inf.uni-hamburg.de/en/inst/ab/wtm/research.html>.

Requirements

A university degree in a relevant field.

Preference will be given to candidates with a completed PhD in Computer Science or being at an advanced level towards it with specialization in artificial intelligence, intelligent robotics and neural networks. We expect experience in machine learning technology and programming skills in Python and PyTorch/Tensorflow. Experience with robotic simulators and robotic systems is an advantage. Your demonstrated research experience and international-level publications should be in some of the areas of Neural Networks, Robotics, Machine Learning, Vision or Natural Language Processing. Very good communication skills in English and in German are desired.

We offer



Reliable remuneration based on wage agreements



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Attractive location



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Health management



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30 days of vacation per annum

As a University of Excellence, Universität Hamburg is one of the strongest research universities in Germany. As a flagship university in the greater Hamburg region, it nurtures innovative, cooperative contacts to partners within and outside academia. It also provides and promotes sustainable education, knowledge, and knowledge exchange locally, nationally, and internationally.

The Free and Hanseatic City of Hamburg promotes equal opportunity. As women are currently underrepresented in this job category at Universität Hamburg according to the evaluation conducted under the Hamburg act on gender equality (Hamburgisches Gleichstellungsgesetz, HambGleiG), we encourage women to apply for this position. Equally qualified and suitable female applicants will receive preference.

Severely disabled and disabled applicants with the same status will receive preference over equally qualified non-disabled applicants.

Tips on applying

Contact

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<https://www.informatik.uni-hamburg.de/wtm/>

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Location

Vogt-Kölln-Straße 30
22527 Hamburg
[Zu Google Maps](#)

Reference number

Application deadline

2022-06-19

Send us your complete application documents (cover letter, curriculum vitae, copies of degree certificate(s) and if necessary ID attesting to your disability or proof of equivalent status) via the online application form only.

If you experience technical problems, send an email to bewerbungen@uni-hamburg.de.

More information on [data protection](#) in selection procedures.



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