



Jacobs University is a private, state-recognized, English-language research university in Bremen. It offers bachelor, master and PhD programs in the focus areas health, mobility and diversity and is involved in the professional development of specialists and managers and in the transfer of knowledge. The guiding principles include the highest standards in research and teaching, interculturality and systematic cross-disciplinary cooperation. The aim is to optimally prepare talents from all over the world for responsible tasks in a globalized world of work. More than 1,500 people from over 110 nations currently live and learn on campus.

Jacobs University offers a

PhD Position - Computer Science or Robotics (m/f/d)

(Full-time, limited for 3 years)

Job ID: 21~47

The starting date is **01.01.2022**. The candidate is expected to finish their PhD within the three years of the project run time. Salary is highly competitive (German TVöD).

The successful applicant will work in the DFG project “Reconstructing the naïve theory of the self”, which is a collaboration of Jacobs University Bremen and TU Dresden. The applicant will be supervised by Prof. Dr. Francesco Maurelli and Prof. Arvid Kappas at JU Bremen and collaborate with Prof. Dr. Bernhard Hommel, who is leading the behavioral studies of the project.

The project:

We plan to investigate how humans conceptualize a “self”, in the framework of the DFG Priority Program 2134 “The active self” - <http://www.activeself.de/>. People attribute a self to other humans, but also to non-human animals or technical systems, and they treat them accordingly— more or less carefully, politely, or empathetic. But what are the criteria for attributing a self to another agent? This project aims to tackle this question by using a “synthetic” approach. We will program small, simple robots in such a way that they show behavioral characteristics that are likely to solicit the attribution of a self—such as causality, human-like movement speed, behavioral efficiency, learning ability, and social sensitivity. In Turing—like tests, human participants will be confronted with videos of behavior of otherwise identical robots showing or not showing these characteristics, and participants will be asked to assess both robots on a number of self-relevant scales. Those behavioral characteristics that lead to a significant increase in the attribution of a self will be combined and implemented in a robot. Participants will be presented with the behavior of this robot and with an otherwise identical robot that is controlled by another human. To the degree that participants will no longer be able to tell these robots from each other, we assume to have identified the criteria for attributing a human-like self. We will then investigate in which ways the attribution of a human-like self will affect how humans treat a robot: whether they show more empathy, trust it more, conform more to its behavior, and treat it less aggressively.

Research topic and tasks:

The research area of the selected PhD student will be in the field of human-robot interaction, in particular on innovative aspects in robotic behaviors, and their relationship with human reactions. This involves autonomous planning and behavior design and development for various robotics systems. Additionally, a strong interaction and collaboration with the team in Dresden is foreseen, for the experiments’ design, development of user interfaces for participants, data analysis, presentation of the results in scientific conferences and journals. Furthermore, local tasks may include guidance of student assistants, preparation of and conducting behavioral experiments.

Requirements:

We are looking for a highly motivated person with a university degree (MSc or diploma) in Computer Science, Robotics, Electrical Engineering or a similar discipline, or alternatively with a degree in behavioral sciences (e.g., Psychology) with demonstrable additional background in Computer Science or Robotics. The candidate should have an interest in robotics, autonomous and remote-controlled vehicles and Human Robot Interaction. Strong programming skills are required (knowledge and demonstrable use of ROS is highly recommended), as is excellent proficiency in English and high levels of commitment, initiative and scientific curiosity. Prior experience with scientific publishing is advantageous.

Offer:

- Unique opportunity to study and work in a highly interdisciplinary and innovative research project
- Working on a modern campus
- Flexible working hours
- Easy accessibility by public transport and plenty of parking on the premises
- Various health and sports offer

For questions please contact the project leaders Prof. Dr. Arvid Kappas (a.kappas@jacobs-university.de) or Prof. Dr. Francesco Maurelli (f.maurelli@jacobs-university.de).

Please submit your comprehensive application (including a cover letter describing your research interests and qualifications, your CV, relevant certificates and the names and contact information for two referees) preferably as one PDF file via our application tool [here](#).

Review of applications will begin immediately and will continue until the position is filled, at the latest October 15, 2021.

Jacobs University offers full equality of opportunity to all qualified applications and is an equal opportunity employer.