



Open PhD position in the Humanoid Robots Lab, University of Bonn, Germany

UNIVERSITÄT **BONN**

RHEINISCHE
FRIEDRICH-WILHELMS-
UNIVERSITÄT BONN

Position: Fully funded 100% TV-L E13
Start date: As soon as possible
Application deadline: August 11, 2024

The Humanoid Robots Lab at the University of Bonn in Germany, headed by Maren Bennewitz, is looking for a highly motivated and qualified PhD student (f/m/d) in the area of **active perception for mobile manipulation**.

About the Candidate:

Candidates for the PhD position should have a background in one or more of the following fields:

- Deep learning
- Reinforcement learning
- Computer vision
- Robotics & autonomous systems
- Human-robot interaction
- Active perception
- Robot navigation
- 3D reconstruction
- Optimization
- SLAM

We are looking for highly motivated students capable of working collaboratively within their research project and within the lab. Interest to work in an interdisciplinary environment is expected. Candidates must hold a very good Master's degree in computer science, robotics, machine learning, computer vision, or a related field. Solid programming skills in C++ and expertise in working with real robotic systems are required. Furthermore, programming skills in deep learning frameworks such as PyTorch or TensorFlow are a big plus. Very good knowledge of English is a prerequisite, the knowledge of the German language is welcome but no requirement. The candidates are expected to conduct independent research and at the same time contribute to ongoing projects in the lab, as well as guide master and bachelor students.

About the Humanoid Robots Lab:

The Humanoid Robots Lab has been participating in various national and international projects funded by the German Research Foundation and the European Commission and has contributed cutting-edge research, combining AI and robotics for personalized robot service, cultural heritage, and sustainable agriculture. The lab concentrates on robots acting in human environments and has developed novel techniques that allow robots to adapt their behavior to the environment and to the surrounding people thereby exploiting semantic information about objects and information about the activities of users. The lab has introduced several novel methods for environment modeling as well as for planning navigation and manipulation actions for wheeled and biped robots. Among them are techniques for 3D environment perception and exploration, footstep planning, manipulation planning, as well as human-aware and personalized navigation. Currently, we especially focus on motion planning and navigation through cluttered and dynamic scenes as well as on generating foresighted robot behavior by predicting human motions and activities. A further research focus of the lab lies on active perception such as the coverage of objects in indoor scenes or crops in glasshouses with a robot's sensors to learn 3D models over time, this work is carried out within the Cluster of Excellence PhenoRob.

More information about the current projects can be found at
<https://www.hrl.uni-bonn.de/research>



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About the University:

The University of Bonn was founded in 1818 and is one of Germany's most important institutes of higher education. As a place of learning to over 38,000 students, it enjoys an outstanding reputation both at home and abroad. It is internationally recognized as a premier research-based university and holds the esteemed distinction of being one of Germany's Excellence Universities. Our institute for Computer Science has a long tradition of robotic research.

About Bonn:

Bonn is a city on the banks of the river Rhine in the German state of North-Rhine-Westphalia and has a population of 330,000. The city has been founded in the first century BC as a Roman settlement, and it is one of Germany's oldest cities. Bonn has an oceanic climate and due to its location a few kilometers south of the Cologne basin valley, it belongs to one of Germany's warmest regions along the Rhine. Bonn is located around 25 km south of Cologne. A visual impression of Bonn can be found [here](#).

RELEVANT LINKS:

- **Humanoid Robots Lab:** <https://www.hrl.uni-bonn.de/>
- **University of Bonn:** <http://www.uni-bonn.de>
- **Bonn, Germany:** <http://en.wikipedia.org/wiki/Bonn>

How to Apply:

Qualified applicants should provide the following material:

- 1) Cover letter briefly describing background and research interests, relevant experience (studies, technical projects, internships, etc.)
- 2) Programming experience (C++, Python, Tensorflow, PyBullet, Gazebo, ROS, etc.)
- 3) CV and a transcript of records
- 4) Date of availability
- 5) Names and contact information for two reference letters

All documents should be submitted by August 11 in a single pdf file smaller than 8 MB via <https://www.hrl.uni-bonn.de/jobs/application>



Scan for more
information

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