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Posted Oct. 11, 2024, set to expire Feb. 10, 2025

Job Title PhD Student Position in Multi-agent Reinforcement

Learning and Planning

**Department** T410 Dept. Electrical Engineering and Automation

**Institution** Aalto University

, , Finland

Date Posted Oct. 11, 2024

Application Deadline Open until filled

Position Start Date Available immediately

Job Categories Graduate Student

**Academic Field(s)** Electrical and/or Electronics

Job Website https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-

Espoo-Finland/PhD-Student-Position-in-Multi-agent-Reinforcement-Learning-and-Planning\_R41152-1

Apply By Email

**Job Description** 

The Robot Learning research group is seeking a talented PhD student with strong interest in Multiagent Reinforcement Learning and Planning.

The Aalto Robot Learning research group operates in the intersection of artificial intelligence and robotics. We focus on developing methods for reinforcement learning, robotic manipulation, decision making under partial observability, imitation learning, and decision making in multi-agent systems. The goal of the research group is to help robots understand what they need to learn to perform their assigned tasks, and, thus, make robots capable of operating on their own and pro-actively help humans. To accomplish these goals the research group develops novel decision-making methods and uses these methods to solve unsolved robotic tasks. For more information, please see [url=https://rl.aalto.fi/]https://rl.aalto.fi.



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The main task of the PhD student will be to develop new machine learning methods for optimizing multi-agent behavior. The developed methods may be based on one of our focus areas including, but not limited to, reinforcement learning and planning under uncertainty. Example research topics include but are not limited to multi-agent curriculum learning, model-based multi-agent reinforcement learning, and multi-agent planning and control. The developed methods may be evaluated with real robots. The exact direction of the research is chosen depending on your experience and interests. Please relate clearly to some of the research topics in your Letter of Motivation.

Researchers from the areas of Machine Learning, AI, Robotics, and related areas including Reinforcement Learning, Control Engineering, Computer Vision, Statistics & Optimization, or Mathematics & Physics are welcome to apply. The candidate is expected to conduct independent research and at the same time contribute to the topics listed above. Successful candidates will be furthermore given the opportunity to work with undergraduate and M.Sc. students.

The research group collaborates internationally and nationally with research groups in construction, computer vision, robotics, mobile heavy machines, human-robot interaction, reinforcement learning, imitation learning, multi-agent systems, under-water vehicles, and robot motion planning. There will be ample opportunities for international collaboration.

The selected candidate will need to apply for the study right in doctoral studies at Aalto University School of Electrical Engineering. Thus, please check the student information and admission criteria from our [url=https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering]website. In particular, please pay attention to the required (English) language proficiency.

#### **WE OFFER**

The position will be filled for 2 + 2 years (doctoral studies are expected to take 4 years in total). The starting date is in December 2024 or as mutually agreed. The salary will be based on both the job requirements and the employee's personal performance in accordance with the salary system of Finnish universities. The starting salary for a doctoral student is approximately 3000 EUR/month and increases with thesis progress.

We offer a wide range of staff benefits, such as occupational health care, flexible working hours, excellent sports facilities on campus and several restaurants and cafés on campus with staff discounts. The position is located at the Aalto University Otaniemi campus which can be easily reached by public transport.

### **HOW TO APPLY**

Please submit your application through our online recruitment system by using the "Apply now!" link



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below. The closing date for applications is November 10, 2024.

Please write your application and all the accompanying documentation in English and attach them in PDF format. Please attach only the following documents to your application: \*

A letter of motivation describing your research interests and how the research fits to the Robot Learning research group (max. 1 page) \*

Curriculum vitae (including the contact details of two referees) \*

A list of publications as a part of the curriculum vitae \*

PDF copy of your MSc and BSc degree certificates, including transcripts of all MSc and BSc university records (grades and courses) and their English translations (Finnish and Swedish certificates are also accepted)

Please note that our recruitment system allows max 5 attachments, so please combine the copies of certificates and transcripts in one PDF, if necessary.

#### ADDITIONAL INFORMATION

For further information, please contact Associate Professor Joni Pajarinen, joni.pajarinen@aalto.fi. Additional information in recruitment process related questions, please contact HR partner Camilla Hanganpää, camilla.hanganpaa@aalto.fi.

### ABOUT AALTO UNIVERSITY, HELSINKI, AND FINLAND

Aalto University (aalto.fi) is located in Finland. Finland is among the best countries in the world according to many quality of life indicators, including being the happiest country in the world. In addition to a computing cluster at Aalto University and computing clusters in Finland, Finland has Europe's fastest supercomputer LUMI, to which the research group has access. Aalto University is the foremost university in Finland in Engineering, Design and Business. Less than a 15-minute metro ride away from center of Helsinki, capital of Finland, Aalto offers access to rich cultural and social life to help maintain healthy work-life balance.

Aalto University is where science and art meet technology and business. We shape a sustainable future by making research breakthroughs in and across our disciplines, sparking the game changers of tomorrow and creating novel solutions to major global challenges. Our community is made up of 13 000 students, 400 professors and close to 4 500 other faculty and staff working on our dynamic campus in Espoo, Greater Helsinki, Finland. Diversity is part of who we are, and we actively work to ensure our community's diversity and inclusiveness. This is why we warmly encourage qualified candidates from all backgrounds to join our community.



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### **Contact Information**

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

Finland