

Doctoral Researcher, ENGAGE-project
Aalto University

Direct Link: <https://www.AcademicKeys.com/r?job=264062>

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Posted Oct. 16, 2025, set to expire Feb. 15, 2026

Job Title Doctoral Researcher, ENGAGE-project
Department T410 Dept. Electrical Engineering and Automation
Institution Aalto University
, , Finland

Date Posted Oct. 16, 2025

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/Doctoral-Researcher--ENGAGE-project_R44527-5

Apply By Email

Job Description

Mobile working machines (MWM) are critical to industries like construction, mining, and agriculture and key to Europe's sustainability and productivity goals. To meet rising demands for green, autonomous, and digital solutions, the ENGAGE network brings together top machine manufacturers (Volvo CE, Liebherr, Ponsse, AGCO), tech leaders (Bosch, Bosch Rexroth, Novatron, GIM Robotics), and six leading academic groups across Europe.

ENGAGE will train a new generation of engineers through Industrial Doctorates, equipping them with cutting-edge expertise in AI, robotics, and mechanical engineering. Together, we're building the future of smart, sustainable mobile machinery. These Industrial Doctorates positions are linked with the ENGAGE project funded by the Horizon Europe programme under MSCA Doctoral Networks ([url=https://marie-sklodowska-curie-actions.ec.europa.eu/actions/doctoral-networks]https://marie-sklodowska-curie-actions.ec.europa.eu/actions/doctoral-networks).

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The Aalto Robot Learning Research Group ([url=https://rl.aalto.fi]https://rl.aalto.fi), part of the ENGAGE network, operates at the intersection of artificial intelligence and robotics. We focus on reinforcement learning, robotic manipulation, decision making under partial observability, imitation learning, and decision making in multi-agent systems.

We are now looking for a Doctoral Researcher.

Job Description

Project title: Offline learning for adaptable control of a multi-actuator boom using existing large but sub-optimal datasets

Supervisory team: Joni Pajarinen (Aalto University), Reza Ghabcheloo (Tampere University), Christine Brach (Bosch Rexroth)

Project tasks and objectives for the Doctoral Researcher:

To devise control techniques for high performance and accuracy
To reduce development costs for varying types of the heavy-duty boom
To alleviate the need to develop high fidelity simulators for all product series
To utilize existing datasets with new products and when existing products change during operation

The Doctoral Researcher is expected to focus on research on applying offline reinforcement learning to heavy machines. While there is recent work on offline reinforcement learning, work that utilizes offline reinforcement learning on heavy machines is scarce. To learn control for boom, learn contextual control from existing datasets for other kinds of booms and utilize the learned control with crude models of the original excavator eliminating the need for high fidelity simulation. The Doctoral Researcher is expected to gain broad knowledge of the state of the art in related fields, such as simulation, reinforcement learning, imitation learning.

The Doctoral Researcher will also be involved in dissemination through social media promotion of the network, such as project website, LinkedIn groups, YouTube video channels, and blogging.

Starting date: January 1st, 2026. Negotiable.

Duration of the work contract and place of employment: 36 months of full-time contract, of which first 12 months are at Aalto University, Finland, and the last 24 months are at Bosch Rexroth, Germany.

Trial period: 6 months

Target degree: Doctoral degree from Aalto University, Finland

Approximate gross salary: The base salary for a Doctoral Researcher at Aalto University is 3075 € per month, which will be adjusted according to the eligible allowances based on MSCA funding. The family allowance will be clarified with the selected candidate once their situation is defined. The salary at

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Bosch Rexroth is 3 942,20 € per month, plus family allowance, if applicable.

Requirements

We are looking for a talented, creative and highly motivated researcher. Recruited researcher can be of any nationality. Doctoral Researcher must be eligible to be enrolled into Doctoral Programme at Aalto University and have not been previously awarded a doctoral degree. The candidate must also comply with the respective employers' requirements in Finland and Germany.

MSCA Mobility Rule: at the time of recruitment by the host organization the researcher must not have resided or carried out their main activity (work, studies, etc.) in the country of their employer (Aalto University, Finland) for more than 12 months in the 3 years immediately prior to their recruitment. Compulsory national service and/or short stays such as holidays and time spent as part of a procedure for obtaining refugee status under the Geneva Convention are not considered.

At the start of their employment, the applicant must hold a Master's diploma in a field related to Robotics or Machine Learning, specializing in topics related to control of robotic systems.

English language requirements: Proficiency in written/spoken English is mandatory. In certain cases, we may ask for a language certificate.

If you are chosen for this position, you will apply for the study right in doctoral studies at Aalto University School of Electrical Engineering. Thus, please see the student information and admission criteria at <https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering>.

We offer

Aalto University (<http://www.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 minutes 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 120 nationalities, 14 000 students, 400 professors and close to 5000 faculty and staff working on our

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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.

Germany is renowned worldwide for its robust economy, high quality of life, rich cultural heritage, and commitment to innovation, making it an attractive destination for top talent. We offer a stimulating work environment characterized by stability, excellent infrastructure, and a strong emphasis on work-life balance.

Bosch Rexroth is a global leader in drive and control technologies. As a strong brand within the Bosch Group, we actively drive the industrial future by developing innovative solutions in areas such as factory automation, mobile applications, and renewable energies. Our products and systems are crucial for the performance of modern machinery and equipment worldwide - from robotic arms to wind turbines and autonomous work machines. We offer a dynamic environment where you can contribute to groundbreaking technologies and actively shape digitalization and sustainability in the industry

The Bosch Rexroth plant is located in Elchingen, approximately 15 km away from Ulm, placing it in the scenic and dynamic city region of Ulm. This area is not only distinguished by its high quality of life but also by its innovative research and business landscape. Ulm offers excellent infrastructure, a vibrant cultural scene, and proximity to nature - the ideal environment to combine professional success with personal fulfillment.

How to apply

Please submit your application through our online recruitment system. To access the recruitment system, please use the "Apply now!" link below. The closing date for applications is 10 December 2025 (at 23.59 UTC +2).

The applicant must submit the following documents through the Aalto portal, only clear copies of documents will be considered. *

Copies of the bachelor's and master's degree certificates including transcripts. For degrees completed in European universities, include also the Diploma Supplement. If the original documents are in a language other than English, include also translations into English. Finnish and Swedish certificates are also accepted. *

Motivation letter: maximum 1 page where you introduce yourself and present your qualifications; you may include also your previous research fields and main research results. Please emphasize your future goals career-wise *

Curriculum Vitae/CV (preferably in [url=https://europass.europa.eu/en/create-europass-cv]Europass format) *

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List of publications (if any) showing your contribution in the publication *

References: Contact details of 2 or more referees included in the CV

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

Please note that we will begin conducting interviews during the application period, so early applications are encouraged. This allows us to get to know candidates as soon as possible and keep the process moving efficiently. Please apply at your earliest convenience!

For more information, please contact:

Associate Professor, Supervisor, Joni Pajarinen, joni.pajarinen@aalto.fi

Additional information in recruitment process related questions, please contact HR Advisor Johanna Haapalainen, hr-elec@aalto.fi.

Want to know more about us and your future colleagues? You can watch these videos:

[url=<https://www.youtube.com/watch?v=i8zawpNMVG8>]This is Aalto University!

[url=https://www.youtube.com/watch?v=5k_og_6zUJQ]Aalto University - Towards a better world

and [url=https://www.youtube.com/watch?v=ZK6pDWm1_CE]Shaping a Sustainable Future.

Read more about working at Aalto: [url=[https://www.aalto.fi/en/careers-at-](https://www.aalto.fi/en/careers-at-aalto)

[aalto](https://www.aalto.fi/en/careers-at-aalto)]<https://www.aalto.fi/en/careers-at-aalto>

Check out our new virtual campus experience: [url=<https://virtualtour.aalto.fi>]<https://virtualtour.aalto.fi>

About Finland

Finland is a great place for living with or without family - it is a safe, politically stable and well-organized Nordic society. Finland is consistently ranked high in quality of life and was listed again as the happiest country in the world: [url=<https://worldhappiness.report/news/world-happiness-report-2025-people-are-much-kinder-than-we-expect-research-shows/>]World Happiness Report 2025

For more information about living in Finland: [url=[https://www.aalto.fi/en/careers-at-aalto/for-](https://www.aalto.fi/en/careers-at-aalto/for-international-staff)
[international-staff](https://www.aalto.fi/en/careers-at-aalto/for-international-staff)]Aalto Careers for International Staff.

Contact Information

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

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Contact

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