

## Doctoral Researchers in Software Engineering Aalto University

Direct Link: <https://www.AcademicKeys.com/r?job=233462>

Downloaded On: Jul. 3, 2024 6:29am

Posted Mar. 25, 2024, set to expire Dec. 30, 2024

**Job Title** Doctoral Researchers in Software Engineering  
**Department** T313 Dept. Computer Science  
**Institution** Aalto University  
, , Finland

**Date Posted** Mar. 25, 2024

**Application Deadline** Open until filled  
**Position Start Date** Available immediately

**Job Categories** Graduate Student

**Academic Field(s)** Computer Science

**Job Website** [https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-Researchers-in-Software-Engineering\\_R39185-4](https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-Researchers-in-Software-Engineering_R39185-4)

**Apply By Email**

**Job Description**

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.

The Department of Computer Science at Aalto University - in the top-20 young universities worldwide - is an internationally oriented professional academic department and home to world-class research in modern computer science, combining research on foundations and innovative applications. With 46 professors and more than 400 employees from 50 countries, it is the largest department at Aalto

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University and the largest computer science unit in Finland.

We are now looking for  
Doctoral Researchers in Software Engineering

Are you passionate about creating the software development methods and organizations of tomorrow?

We are looking for doctoral researchers to perform software engineering research. In these positions you will have a chance to make an impact by contributing to cutting-edge research and advancing the state of the art in the software industry. Join us in shaping the future!

We offer positions in four thematic areas: \*

Intelligent automation of software specification, implementation, and validation. The PhD project investigates AI-assisted methods for improving software development, based on abstract high-level software specifications, which can be automatically analyzed and translated to executable code. The project focuses on highly automated, systematic algorithmic methods, which substantially reduce the need for human effort at all stages of the software life cycle. \*

Novel techniques and methods for Hybrid Intelligence Software (HIS) in/for Edge-Cloud Computing. The goal of this PhD project is to focus on novel methods and techniques for engineering edge-cloud applications composing intelligence/capabilities from software services, AI/ML/LLM and humans, called hybrid intelligence software (HIS). It is expected that realistic HIS applications will be developed in edge-cloud environments for different purposes such as anomaly detection, cybersecurity, and predictive maintenance. \*

Large-Scale Agile Software Development. This PhD project focuses on large-scale agile development in both industry and the public sector. Depending on the candidate, the project will either focus on hybrid work or agile portfolio management. Hybrid work refers to a mode of working in which work is done both in the office and from home. The project on hybrid work aims at developing empirically grounded knowledge on applicability, challenges, success factors, and practices for succeeding with software engineering in a world where hybrid work is the norm. Agile portfolio management deals with the process related to allocating organizational resources between competing initiatives; agile portfolio management deals with how to do this in a manner that is suitable in agile development organizations. For both project options, candidates with documented previous experience with empirical studies in real-world organizations, using qualitative and/or quantitative methods are preferred. \*

Combining Continuous Experimentation with User-Centered Design and Automation. The goal of this PhD project is to investigate the integration of Continuous Experimentation (CE), User-Centered Design (UCD), and automation of experimentation/design process activities. CE is usually based on online experiments with large numbers of users, while UCD takes a more qualitative approach, making the integration of the two challenging. The project is expected to propose novel methods and approaches for conducting user-centered software product experimentation and to explore how

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automation could be used to assist humans in the experimentation process or in creating artefacts for experimentation. It is expected that case studies with software companies will play a significant role in the project. Candidates with documented previous experience with empirical studies in real-world organizations, an understanding of experiment-based software product development, and/or the use of artificial intelligence in creative design tasks are preferred.

### Scientific environment

You will work in the department of Computer Science at Aalto University. Your supervisor will be determined based on the project you are accepted to: \*

Intelligent Automation of Software Production: Prof. Jussi Rintanen, [jussi.rintanen@aalto.fi](mailto:jussi.rintanen@aalto.fi) \*

Novel Techniques and Methods for Hybrid Intelligence Software (HIS) in/for Edge-Cloud Computing: Prof. Hong-Linh Truong, [linh.truong@aalto.fi](mailto:linh.truong@aalto.fi), <https://rdsea.github.io> \*

Large-Scale Agile Software Development: Prof. Casper Lassenius, [casper.lassenius@aalto.fi](mailto:casper.lassenius@aalto.fi) \*

Combining Continuous Experimentation with User-Centered Design and Automation. Prof. Fabian Fagerholm, [fabian.fagerholm@aalto.fi](mailto:fabian.fagerholm@aalto.fi)

You will work in the research group of your supervisor, in an environment where you can interact with other doctoral researchers and research staff. You will also be part of the Finnish Software Engineering Doctoral Research Network (<http://softwareengineering.fi>), where you can meet fellow doctoral researchers working on software engineering topics in other Finnish universities.

### Your Role and Goals

Your tasks as a doctoral researcher are to conduct scientific research in one of the topics of this call and complete academic studies to support your development as a researcher. Your research and study plans will be drawn up with the support of your supervisor.

### Experience and Ambitions

Suitable candidates have: \*

A keen interest in working with their chosen research topic. \*

Background knowledge in software engineering and/or computer science. \*

For positions including an artificial intelligence angle: background knowledge in AI/ML is considered a benefit. \*

For positions including significant empirical components: experience in using qualitative and/or quantitative research methods in organizational settings is considered a benefit. \*

Ability and willingness to work with industry partners. \*

An excellent student track record. \*

High ambition, ability to work systematically, and good skills in planning and self-management.

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A master's degree (or an equivalent program that in the awarding country gives eligibility for doctoral level studies) in computer science, software engineering, or a closely related field must be completed before the start of employment. A good command of English is required.

Applicants must fulfill the admission criteria of the Aalto Doctoral Program and, if chosen for a position, apply for, obtain, and accept the right to pursue doctoral studies at Aalto University. For more information on the general requirements and the application process for doctoral studies, please visit [[url=https://www.aalto.fi/en/doctoral-education/how-to-apply-for-doctoral-studies.](https://www.aalto.fi/en/doctoral-education/how-to-apply-for-doctoral-studies)]

### What we offer

We offer the following: \*

The opportunity to work in a dynamic community of world-class researchers and professionals where students are rigorously selected and highly motivated. This leads to an exceptionally interactive and intellectually challenging atmosphere at Aalto. \*

A flexible modern work culture. We value the balance and well-being of work and leisure in all aspects of life. \*

An interesting job in an inspiring work environment. You will be able to work in a community where we promote socially significant goals in science and education. We will familiarize you with your tasks and you will be part of a world-class team that will provide you with support for your work tasks now and in the future. We encourage and offer opportunities for continuous development of your own expertise. \*

The expected starting date in the position is August 1st, 2024 - January 1st, 2025. Presence in Finland for the duration of the contract is compulsory. \*

Employment contracts will be made for three years with the funding from the Finnish Ministry of Education and Culture. The contract includes a requirement to apply, receive and accept a doctoral study right within the probation period of the first 6 months. \*

The annual workload of research and teaching staff at Aalto University is 1612 hours. \*

Aalto University follows the salary system of Finnish universities. The starting salary is approximately 2700 €/month (gross), and it increases as the Doctoral Researcher progresses in the research and studies. \*

The contract includes Aalto University occupational healthcare. Aalto University provides excellent learning and development opportunities, and a commuter ticket benefit. Unisport offers versatile sports facilities and exercise services with a staff discount. \*

We work in a hybrid way, and the primary workplace is Otaniemi, Espoo. The Otaniemi campus is a thriving and connected community of 100 nationalities. Life at the transformed campus is vibrant and filled with amazing architecture, calming nature, and a variety of cafes, restaurants, services and good connections along the metro and city train lines. See how the campus looks like on our virtual tour: [[url=https://virtualtour.aalto.fi](https://virtualtour.aalto.fi)]

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Join us!

To apply, please submit the following application materials through our aalto.fi recruitment site by April 30th 2024, 23:59 Finnish time. Click “Apply now”.

Please note: Aalto University’s employees should apply for the position via internal HR system Workday (Internal Jobs) by using their existing Workday user account (not via the external webpage for open positions). Aalto University’s students and visitors should apply as external candidates with personal (not Aalto) email.

All material should be submitted in English and in a pdf-file. Application material should include:

- Letter of motivation (2-4 pages). Please state clearly which topic(s) you are applying for. Describe your background and future plans, explain your reasons and motivation for selecting your topic(s) of choice, and show how your previous studies and experience support a successful doctoral project.
- A curriculum vitae with complete study and employment history; a list of publications, if any; and contact details of 2 senior academics willing to act as referees. We will contact your referees if recommendation letters are required.

(please see example CV:

[url=https://view.officeapps.live.com/op/view.aspx?src=&#61;https%3A%2F%2Ftenk.fi%2Fsites%2Fdefault%2F06%2FTENK\_CV\_template\_2020.docx&wdOrigin=&#61;BROWSELINK]TENK\_CV\_template\_2020.docx (live.com) )

- A study transcript provided by the applicant’s university that lists studies completed and grades achieved.
- A copy of the M.Sc. degree certificate or equivalent. (For a doctoral study application, it will need to be officially translated into Finnish, English or Swedish.) If the degree is still pending, then a plan for its completion must be provided.
- A plan for obtaining a certificate of English/Finnish/Swedish language knowledge for doctoral study application if the position is offered (to have it on time for application, see more from [url=https://www.aalto.fi/en/doctoral-education/how-to-apply-for-doctoral-studies]https://www.aalto.fi/en/doctoral-education/how-to-apply-for-doctoral-studies).

We review applications when they come in, and we might interview qualified candidates before the application period ends. The positions will be filled as soon as suitable candidates are identified. Selected candidates should apply for the right to conduct doctoral studies at Aalto immediately after accepting the position.

Any questions?

For general information about the positions, kindly contact Prof. Casper Lassenius

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(casper.lassenius(at)aalto.fi). For questions about a specific project, please contact the professors listed above.

Aalto University reserves the right to leave the position open, extend the application period, reopen the application process, and consider candidates who have not submitted applications during the application period.

For questions about applying, please contact [[url=mailto:hr-cs@aalto.fi](mailto:hr-cs@aalto.fi)]hr-cs@aalto.fi.

Want to know more about us and your future colleagues?

You can watch these videos: [[url=https://www.youtube.com/watch?v=5k\\_og\\_6zUJQ](https://www.youtube.com/watch?v=5k_og_6zUJQ)]Aalto University - Towards a better world, [[url=https://www.youtube.com/watch?v=dUfEGVM-ZP8&feature=youtu.be](https://www.youtube.com/watch?v=dUfEGVM-ZP8&feature=youtu.be)]Aalto People , and

[[url=https://www.youtube.com/watch?v=ZK6pDWm1\\_CE](https://www.youtube.com/watch?v=ZK6pDWm1_CE)]Shaping a Sustainable Future.

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

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

### 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 just listed again as the happiest country in the world: [[url=https://worldhappiness.report/news/its-a-three-peat-finland-keeps-top-spot-as-happiest-country-in-world/](https://worldhappiness.report/news/its-a-three-peat-finland-keeps-top-spot-as-happiest-country-in-world/)]https://worldhappiness.report/news/its-a-three-peat-finland-keeps-top-spot-as-happiest-country-in-world/ . For more information about living in Finland: [[url=https://www.aalto.fi/en/careers-at-aalto/living-in-finland](https://www.aalto.fi/en/careers-at-aalto/living-in-finland)]https://www.aalto.fi/en/careers-at-aalto/living-in-finland.

### Contact Information

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

### Contact

Finland