Doctoral Researcher in sustainable AI and cloud computing
Aalto University

Job Title	Doctoral Researcher in sustainable AI and cloud computing
Department	T412 Department of Information and Communications Engineering
Institution	Aalto University , , Finland
Date Posted	Jul. 2, 2025
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-Researcher-in-sustainable-AI-and-cloud-computing_R43694-2
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 120 nationalities, 14 000 students, 400 professors and close to 5000 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.

We are now recruiting one Doctoral Researcher (4y) to join our team.

Doctoral Researcher in sustainable AI and cloud computing
Aalto University

What you will be working on:

The project
The rapid growth of artificial intelligence (AI) has led to increased energy consumption in data centers, raising concerns about carbon emissions. To address these challenges and support sustainability goals, the project DecAI aims to decarbonize AI through long-term impact assessment and optimization. The goal is to develop a framework to estimate carbon emissions across AI's development, operation, and use. This framework enables stakeholders, such as AI providers and data center operators, to evaluate and compare scenarios to reduce emissions. The framework will be released as a software tool to guide emissions reduction strategies. The project aims to optimize the operations (serving) of AI by developing algorithms that manage compute, network, and storage resources in a carbon-efficient way while supporting long-term benefits for the electricity grid. By addressing AI's entire lifecycle, DecAI offers a holistic approach to reducing carbon emissions.

Your role
The doctoral researcher will work closely together with our team, on tasks such as to: * Identify and evaluate carbon metrics for reducing the environmental impact of AI and cloud computing * Empirically evaluate different parts of the AI lifecycle, including development (training), operation (inference) and use * Develop methodologies to estimate the long-term impact of AI on carbon emissions and other environmental indicators * Build a software framework to quantify the long-term environmental impact of AI and cloud computing

This project will enable building expertise in AI, cloud computing, networking technologies and energy systems (electricity markets, energy metrics, carbon metrics). Your work will often be interdisciplinary and require close cooperation with other research groups.

The position requires * Master's degree in computer science, communications engineering, or a related field (with a CGPA of at least 3/5) * Experience (e.g. coursework, projects, etc.) in AI and machine learning, including understanding of various DNN architectures, training models, and applying them for different tasks * Good programming skills - you are required to provide a sample of your code during the recruitment process * Strong interest and motivation in improving the sustainability of networked systems * Fluency in written and spoken English. See [url=https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering#8-required-language-proficiency]https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering#8-required-language-proficiency for information on how you can demonstrate proficiency in English. This is required when officially applying for doctoral studies at the School of Electrical Engineering in Aalto University

Doctoral Researcher in sustainable AI and cloud computing
Aalto University

What we offer
You will become a part of the Cloud and Network Computing group, headed by assistant professor Gopika Premsankar. Our group is dedicated to advancing research in networked systems, primarily focused on lowering the environmental footprint of such systems while enhancing sustainability, performance, and reliability. Our research leverages optimization techniques, applied machine learning, and statistical analysis to achieve these objectives. Through the DecAI project we will work closely with collaboration partners within Finland and internationally in the USA, Netherlands and Germany. There are opportunities for research visits to strengthen collaboration with leading experts in this field.

You will receive a competitive salary, approximately 3000 EUR/month. The contract includes comprehensive occupational health benefits and membership in Finland’s social security system.

Application documents
To apply, please share the following application materials (as PDFs) with us through our recruitment site ("Apply now!”): * A CV * A short letter of motivation, at most 1 page, which describes your interest and motivation (please try to include details that are not part of your CV and emphasize how you address the requirements listed above) * Sample code, preferably on a code repository (Provide a URL and describe in one paragraph your role in developing the software) * Names and email addresses of two reference providers. They will be contacted directly at a later stage in the application process. * Transcripts of your grades in Bachelor’s and Master’s degrees

Please note: Aalto University’s employees should apply for the position via our internal HR system Workday (Internal Jobs) by using their existing Workday user account (not via the external webpage for open positions).

Application process
Please send your application as soon as possible, at the latest October 31st, 2025. We will go through applications, and we will hire the right candidate as soon as we find them, possibly already during the application period.

After a preliminary interview, you may be asked to submit a 1-page research plan detailing the specific research questions you aim to address. Although this happens at a later stage, it will be worthwhile to think about your research directions in relation to the DecAI already during the application process.

For more information about the open position, please contact Professor Gopika Premsankar, [url=mailto:gopika.premsankar@aalto.fi]gopika.premsankar@aalto.fi. Please contact ELEC’s HR Advisor’s in questions related to the recruitment process, [url=mailto:hr-elec@aalto.fi]hr-

Doctoral Researcher in sustainable AI and cloud computing
Aalto University

elec@aalto.fi.

Why Finland and why this group
We hope you have a strong interest and an ambition to make meaningful contributions in improving the sustainability of networked systems. We also expect you to be goal oriented and working with focus towards the goals of the project. We are a young and growing team; there is some flexibility in defining your specific research goals and you will work closely with the PI in developing your research.

Aalto University provides a vibrant and collaborative environment. 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, 13,000 students and 4,500 employees. Life at the campus is vibrant and filled with amazing architecture, calming nature, and a variety of cafes, restaurants, services and good transport connections.

Finland is a great place for living - it is a safe, politically stable and well-organized Nordic society. 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 &
[url=https://www.aalto.fi/en/services/welcome-to-aalto-university-and-finland-info-package]https://www.aalto.fi/en/services/welcome-to-aalto-university-and-finland-info-package

Contact Information

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

Contact

Finland