Research Assistant positions in Tactical applicatons and Hardware aware quantum error correction coding, Summer job
Aalto University

Job Title	Research Assistant positions in Tactical applicatons and Hardware aware quantum error correction coding, Summer job
Department	T412 Department of Information and Communications Engineering
Institution	Aalto University , , Finland
Date Posted	Jan. 16, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Professional Staff Graduate Student
Academic Field(s)	Electrical and/or Electronics
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Research-Assistant-positions-in-Tactical-applicatons-and-Hardware-aware-quantum-error-correction-coding--Summer-job_R38366-4

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 Information and Communications Engineering is offering a summer job in the research group:

Tactical applications of 6G subnetworks (position 1)
Subnetworks are being developed in the context of wireless 6G networks. The subnetworks use resources of the umbrella 6G network, but coordinate with it only lightly. This enables an almost autonomous operation of the subnetworks. A typical application scenario would be internal communication in a vehicle. In this work, the objective is to chart national defense applications of subnetworks, in particular their covertness and jamming tolerance. The applicants are expected to understand the fundamentals of cellular and wireless communication as well as good matlab-skills.

Hardware aware quantum error correction coding (position 2)
Reliable universal quantum computing requires fault tolerant implementations based on quantum error correction coding (QECC). Typical errors are different for different types of hardware. In this work, the objective is to optimize error correction coding to a quantum computer based on superconducting qubits, as well as to investigate the interaction of QECC with so-called flag gadgets. The work is theoretical and computations, and is based on mathematical modeling of the hardware. The applicants are expect to understand the fundamentals of coding theory, and have good skills in linear algebra.

Join Us!
To apply, please share the following application materials with us through our recruitment site Workday ("Apply now!"):

- CV
- Motivation letter
- Latest transcript of records

Starting around June 2024 or as mutually agreed. Please apply as soon as possible since we will go through applications, and we may invite suitable candidates to interview already during the application period. Choose which position are applying (position 1 or position 2). Please apply at the latest 4.2.2024.

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).

Contact person for further questions regarding the position: Professor Olav Tirkkonen, [url=mailto:olav.tirkkonen@aalto.fi]olav.tirkkonen@aalto.fi. In any questions regarding the

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recruitment process: HR Advisor Monika Mäkinen, [url=mailto:hr-elec@aalto.fi]hr-elec@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 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/. 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/careers-at-aalto/welcome-to-aalto-university-and-finland-info-package]https://www.aalto.fi/en/careers-at-aalto/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