algorithmiq

Researcher Position in Quantum Chemistry

About Algorithmiq

Algorithmiq is on a mission to revolutionise life sciences by exploiting the potential of quantum computing to solve currently inaccessible problems.

We envision a world where new drugs can be discovered and invented quickly, efficiently and cost-effectively, leading to affordable and precise medical treatments.

Background

The race to develop the first fault-tolerant quantum computer is already underway, but until we reach this goal, small quantum processors that can do some calculations faster than the best available supercomputers are being developed. We are committed to developing algorithms that push the limits of existing quantum hardware to solve important problems already today. For that, we combine our expertise in quantum information with the best available classical strategies, such as network medicine and AI.

We are developing a platform that sits on top of leading vendors. Our products are hardware agnostic, which means they can run on any quantum device, regardless of how it is built.

Your role

Your role is crucial in helping us to develop and benchmark quantum-chemical multireference electronic structure methods that are applicable not only for near-term small quantum processors but will also scale for fault-tolerant quantum computers with hundreds of qubits. The position is for 12 months initially, with the possibility for extension.

Main responsibilities

Tasks and responsibilities will include but not be limited to:

- Develop and implement hybrid quantum and classical multireference electronic structure methods
- Collaborate with a diverse research and development team to design and integrate the newly developed software for cutting-edge quantum computing experiments
- Build expertise in the field of quantum computing through hands on experience, discussions with colleagues and reading relevant literature
- Ask great questions and help develop requirements when they are still unclear

What you'll bring

- PhD in Theoretical Chemistry or Theoretical Physics
- Strong background in electronic structure methods, preferably in multiconfigurational/multireference methods and quantum mechanics
- Excellent programming skills (in any programming language)
- Experience in software development
- Experience in designing a computational protocol and performing quantum-chemical calculations
- Fluency in Python
- Comfortable operating in a growing dynamic, fast-paced environment, and capable of being self-directed; develop, prioritize, and execute without always having full specifications

An advantage if you

- Experience in quantum-chemistry methods for quantum computing
- Experience in relativistic quantum chemistry
- Fluency in C++
- Experience with modern software engineering practices including version control and integration testing

You must have

- Team-oriented, detail-oriented, efficient and solution-oriented attitude
- Superb analytical and problem solving skills
- Excellent communication and interpersonal skills
- Flexibility and ability to work independently and in a team
- Ability and willingness to train and supervise junior members of your team
- Great English skills (written and spoken)

The team

Our R&D team has a long history of doing cutting-edge research in vrious topics related to quantum information, quantum foundations, complex systems and other related topics. Our world-class research has resulted in several papers, which we are very proud to publish in top peer-reviewed journals.

You will join our cross-disciplinary team of quantum physicists, mathematicians, computer scientists, and computational chemists- all world experts in their fields. Our collaborative, close-knit team has a track record of delivering high-quality R&D across the full quantum stack. As a growing company, you will have the freedom to think independently and creatively, as well as contribute to Algorithmiq's business development.

You can view our latest publications https://algorithmiq.fi/research

Your benefits

- Hackathons & team building away-days once a quarter
- Birthday day off
- Company laptop and IT equipment as provisioned
- New joiners' onboarding program and continuous professional development
- Challenging job in a pioneering tech industry and international environment
- Remote work

Culture

We are an early stage startup with a friendly, close-knit and transparent working environment where trust underpins everything we do. We have big ambitions and exciting goals to achieve by the end of the year which have the potential to be game-changing for the industry. We naturally are a hard-working bunch, but we know more than anything that people are our greatest assets. We are proud of the culture we have fostered which is friendly and compassionate.

Diversity & Inclusion

At Algorithmiq, we know that diverse teams are stronger teams. Our ambition is to build the best global team, representative and inclusive of the diverse talent and communities we belong to and collaborate with. We want to empower our team to do their best work.

We are particularly proud to be led by a female CEO in a field where female representation is still relatively low. We are still only a few months old but we recognise the importance of putting these policies in place from the start. Our aim is to build a culture that is fair, representative and where you can bring your authentic self to work. We welcome all backgrounds and commit to a fair and accessible recruitment process for all candidates.

We support wellbeing and a balanced life, and offer a range of family-friendly, inclusive employment policies and employee team-building and social activities. We would be happy to meet any accommodation requests during the application or interview process, please just let us know.

How to apply

Candidates should send a cv and a brief description (~200 words) about why they would be a good fit for the company to careers@algorithmiq.fi.

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careers@algorithmiq.fi
Kanavakatu 3C
00160 Helsinki
Finland