

Research Fellow (multiple positions)

Who are we?

We are the University of Cambridge presence in Singapore called Cambridge CARES, sponsored by the National Research Foundation (NRF) of Singapore as part of its CREATE program CAM.CREATE. The research programme Cambridge Centre for Carbon Reduction in Chemical Technology (C4T) is a collaborative research activity between Cambridge University, Nanyang Technological University (NTU), and National University of Singapore (NUS) within Cambridge CARES.

The project aims at a comprehensive virtualisation of industrial operations, *i.e.* a hierarchical representation of data and models associated with every entity at different levels of granularity, in order to exploit synergies for resource, energy, and emissions savings. The overall goal is, using ideas from Industry 4.0, Internet of Things, the Semantic Web, machine learning, and statistics, to create a system capable of providing quantitative decision support to stakeholders, planners, and policy makers. This is being realised through an ontological representation of data in a knowledge-graph in combination with an eco-system of autonomously operating software agents, thus achieving interoperability and automation in cross-domain applications.

Our team is comprised of world-class scientists and engineers working in a vibrant, fast-paced environment with great opportunities for knowledge and skills development.

Who are we looking for?

The ideal applicant will assume intellectual leadership in the development of the theoretical foundations as well as the wider, ongoing development of our knowledge-graph and autonomous agent software. This will involve keeping abreast of the latest web-technologies, making key design decisions, and ensuring their realisation. The specific research topic will fit into the above problem description. (Example publications can be found [here](#).)

The successful candidate will be expected to:

- Publish research results in high-quality international peer-reviewed journals.
- Design, develop, test, deploy, maintain, and improve software.
- Lead designs of major software components, systems, and features.
- Mentor and train other team members on design techniques and coding standards.
- Make strategic decisions on complicated and ambiguous technical problems.

What skills do you have?

- A PhD degree in a relevant discipline such as mathematics, computer science, (theoretical) physics/chemistry, (electrical) engineering, or a related subject.
- Experience with one or more general-purpose programming languages such as Java, Python, JavaScript, C/C++, as well as version-control tools such as git.
- A good publication record in at least one of the research areas concerned.
- Excellent oral and written communication skills.
- The ability to work as part of a dynamic, multidisciplinary team of researchers.

What can we offer you?

- A stimulating working-environment with friendly, highly motivated colleagues.
- Opportunities to develop and implement new ideas in a creative environment.
- A competitive salary in line with your skills and experience.
- A one-year contract in the first instance, extendable following satisfactory performance.
- A comprehensive medical insurance cover as part of your employment.

Please note this post is based in the CREATE Tower at NUS University Town, Singapore.

How to apply?

Please apply by uploading your CV and academic transcript to <https://talent.sage.hr/jobs/31b37595-d7c1-4f4b-915e-93a2dad8b3ae>. If you have any questions, please feel free to reach out to the HR team at recruitment@cares.cam.ac.uk.