

Computer Engineer / Scientist (HPC)

We are the University of Cambridge's presence in Singapore, Cambridge CARES. Our activities are sponsored by the National Research Foundation's CREATE programme. Our research effort requires the use of High Performance Computing, bespoke software and semantic web technology including an artificial intelligence platform based on a knowledge graph. For the support and development, we are looking a highly skilled, talented and creative individual who is able and willing to work in a world leading academic research environment.

The successful candidate will be expected to:

1. Maintain dependable scientific IT infrastructure and networking to a high level of availability and reliability, with particularly responsible for two HPC clusters (33 nodes each).
2. Identify and resolve performance and scalability issues in the HPC, network and scientific infrastructure.
3. Design, develop, and implement software integrations with other key systems and National Supercomputer Centre Singapore (NSCC).
4. Develop software tools with the project team. This will involve keeping abreast of the latest web technologies, making key design decisions, and ensuring their realisation.
5. Deploy new software and develop testing tools to ensure proper HPC grid operation.
6. Advise and recommend architecture strategies, processes and methodologies.
7. Perform server administration tasks, including user/group administration, group policies, print services, and resource and infrastructure monitoring, ensuring system architecture components work together seamlessly.
8. Monitor data centre health using pre-existing management tools and respond to hardware issues as they arise; help build, test, and maintain new servers as needed
9. Perform routine/scheduled audits of the systems, including backups, security scans, disaster recovery and security-related drills.
10. Liaising with the campus network provider, NSCC and third-party partners requiring VPN access.
11. Communicate complex technical concepts to non-technical stakeholders.
12. Participate in research discussions with local industries and partners, overseas universities, and writing reports (an advantage).

What skills will you need:

1. A good degree in Information Technology, Computer Science, Computer Engineering or related fields
2. Demonstrate strong knowledge in infrastructure areas such as virtual server technologies, networking, internet protocols, scripting & monitoring tools and IT security.
3. Knowledge of networking concepts, IT network design and governance and tools such as object-oriented programming languages (Java), scripting languages (Python), IDEs (NetBeans, Eclipse) and build tools (Maven).
4. Experience in HPC environment, large HPC cluster and grid designs, network, server, and application-status monitoring, software-automation production systems, software engineering/web development, Linux system administration and Redhat.

5. Familiarity with software development lifecycle concepts, such as continuous integration, development testing. Experience with Git, Bitbucket, Jenkins, Bamboo or similar.
6. Experience with Docker, Kubernetes and other orchestration tools (strong advantage).
7. Some understanding of relational and non-relational database management systems, semantic web, reasoning, SPARQL and ontologies (an advantage).
8. Strong analytical, project management, communications and interpersonal skills to work as part of a dynamic, multidisciplinary team of researchers.

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

How to apply?

Please send your CV and cover letter (summarizing the most relevant skills and experience that you have for the position) to recruitment@cares.cam.ac.uk