Job Reference

284_22_CS_WDC_R0

Position

Master Student - Exascale Supercomputer Software Container (R0)

Data de tancament

Dilluns, 31 Octubre, 2022
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Job title: Master Student - Exascale Supercomputer Software Container (R0)

About BSC

The Barcelona Supercomputing Center - Centro Nacional de Supercomputación (BSC-CNS) is the leading supercomputing center in Spain. It houses MareNostrum, one of the most powerful supercomputers in Europe, and is a hosting member of the PRACE European distributed supercomputing infrastructure. The mission of BSC is to research, develop and manage information technologies in order to facilitate scientific progress. BSC combines HPC service provision and R&D into both computer and computational science (life, earth and engineering sciences) under one roof, and currently has over 770 staff from 55 countries.

Look at the BSC experience:
BSC-CNS YouTube Channel
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Context And Mission

BSC is looking for a student intern that contributes to the container support and to an ecosystem targeting RISC-V-based ISA for a European HPC accelerator. The position is funded by a project aiming to build the software infrastructure and toolchain for an FPGA-based emulator for an energy-efficient Exascale system. More specifically, the candidate will collaborate with the Workflows and Distributed Computing (WDC) group to validate container images running PyCOMPSs applications (compss.bsc.es) on top of the MEEP platforms. PyCOMPSs is a task-based programming model developed by the WDC group, that aims at easing the development of parallel applications for distributed computing. In addition, the candidate will support the whole project on its CD/CI infrastructure.
Key Duties

- Validation of COMPSs container images for RISC-V architecture
- Validation of COMPSs applications on top of containers for RISC-V
- Extend containers and the container ecosystem to RISC-V based hardware.
- Build and maintain high-performance runtime frameworks, libraries, and services

Requirements

- Education
  - Graduated in Computer Science, or related Engineering degree or equivalent level of professional experience.

- Essential Knowledge and Professional Experience
  - Experience with container technologies, such as Docker and orchestration platforms like Kubernetes.
  - Good knowledge of Linux OS (not necessarily all):
    - Linux filesystems
    - Image distribution
    - Content storage and management
    - Kernel and container security
    - Linux containerization

- Additional Knowledge and Professional Experience
  - Knowledge on parallel and distributed computing
  - Experience with Continuous Integration/Continuous Deployment frameworks
  - Agile development and open source development, deployment, and support, including GitHub or equivalent
  - Open source software committer a plus
  - Fluency in English is essential, Spanish is welcome.

- Competences
  - Effective communication, multitasking, and working well on collaborative designs.
  - Ability to think creatively.
  - Ability to take initiative, prioritize and work under set deadlines and pressure.

Conditions

- The position will be located at BSC within the Computer Sciences Department
- We offer a full-time contract, a good working environment, a highly stimulating environment with state-of-the-art infrastructure, flexible working hours, extensive training plan, tickets restaurant, private health insurance, fully support to the relocation procedures
- Duration: Temporary - Until 30/06/2022
- Salary: we offer a competitive salary commensurate with the qualifications and experience of the candidate and according to the cost of living in Barcelona
- Starting date: ASAP
Applications procedure and process

All applications must be made through BSC website and contain:

- A full CV in English including contact details
- A Cover Letter with a statement of interest in English, including two contacts for further references - Applications without this document will not be considered

In accordance with the OTM-R principles, a gender-balanced recruitment panel is formed for every vacancy at the beginning of the process. After reviewing the content of the applications, the panel will start the interviews, with at least one technical and one administrative interview. A profile questionnaire as well as a technical exercise may be required during the process.

The panel will make a final decision and all candidates who had contacts with them will receive a feedback with details on the acceptance or rejection of their profile.

At BSC we are seeking continuous improvement in our recruitment processes, for any suggestions or feedback/complaints about our Recruitment Processes, please contact recruitment [at] bsc [dot] es.

For more information follow this link

Deadline

The vacancy will remain open until suitable candidate has been hired. Applications will be regularly reviewed and potential candidates will be contacted.

OTM-R principles for selection processes

BSC-CNS is committed to the principles of the Code of Conduct for the Recruitment of Researchers of the European Commission and the Open, Transparent and Merit-based Recruitment principles (OTM-R). This is applied for any potential candidate in all our processes, for example by creating gender-balanced recruitment panels and recognizing career breaks etc.

BSC-CNS is an equal opportunity employer committed to diversity and inclusion. We are pleased to consider all qualified applicants for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability or any other basis protected by applicable state or local law.

For more information follow this link

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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