112_22_CS_EEA_RE3

Job Reference

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Position

Exascale Supercomputer Architecture Engineer (RE1-2-3)

Data de tancament

Divendres, 30 Juny, 2023

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Job title: Exascale Supercomputer Architecture Engineer (RE1-2-3)

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
Let's stay connected with BSC Folks!

Context And Mission

BSC is looking for a talented and motivated professional with expertise in Computer Architecture and system simulation for a European HPC accelerator. The system is based on the RISC-V architecture, and the simulator is currently built on top of Spike and Sparta. This is part of a project to build an FPGA-based emulator for an energy-efficient Exascale system.

Key Duties

- You will be part of the development team of a new RISC-V execution-based simulator, focused on the movement of data throughout the memory hierarchy. This will include both the addition of new
modeling capabilities and the improvement of the simulation technology itself.

- Taking part in simulations to produce insight that will inform the design of the new architecture of the project.
- Extending the visualization capabilities of the simulator to better understand the behaviour of applications.
- Participating in the open sourcing of the simulator, including documentation and user support.
- You will collaborate closely with the architecture team.

**Requirements**

- **Education**
  - Ph.D. or degree in Computer Science or similar or equivalent level of professional experience.

- **Essential Knowledge and Professional Experience**
  - Understanding of computer architecture concepts such as multi-level caching, virtual memory, coherence, multiprocessor issues, vector processing…
  - Experience with computer/system simulators (Gem5, gpgpusim, booksim…) both as a user and as a developer.
  - Ability to comprehend how SW and HW interact, in order to zero in on the potential effects of changes to an architecture or application.
  - Proficiency in object oriented programming; the simulator is largely C++.
  - Strong scripting abilities.
  - Solid experience in developing, deploying and supporting high quality software, open source or proprietary, for use by others.

- **Additional Knowledge and Professional Experience**
  - Fluency in English is essential, Spanish is welcome.

- **Competences**
  - Effective communication, multitasking, and working well on collaborative designs
  - Keeping abreast on technology trends.
  - Ability to think creatively.
  - Ability to work independently and make decisions.
  - Ability to take initiative, prioritize and work under set deadlines.

**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: Open-ended contract due to technical and scientific activities linked to the project and budget duration
- 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

This position is reserved for candidates who meet the requirements and have the legal status of disabled persons with a degree of disability equal to or greater than 33%. In case there are no applicants with disabilities that meet the requirements, the rest of the candidates without declared disability will be evaluated.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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