324_22_CS_HAM_RE2

Job Reference

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Position

Researcher / Research Engineer (R2/RE2)

Data de tancament

Dilluns, 31 Octubre, 2022
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Job title: Researcher / Research Engineer (R2/RE2)

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

The Mobile and embedded-based HPC within the Computer Science Department at the Barcelona Supercomputing Center is seeking a researcher supporting the exploration of a new class of energy- and cost-efficient compute platforms based on Arm and RISC-V System-on-Chips as well as FPGAs.

The development efforts of the team within BSC are towards:
* Development of the necessary system software (compiler and runtime);
* Rapid prototyping of IPs for design validation and system software tests on FPGA.
* Benchmarking and comparison of state-of-the-art CPUs with special focus on vector architectures.
We are seeking two research engineers to support the test of HPC applications on RISC-V-based prototypes and optimized implementation of math kernels targeting vector architectures.

**Key Duties**

- Implement algorithms with high-level computing languages (e.g., C or Python)
- Integrate with the BSC programming model and performance analysis tools infrastructure;
- Validate vector implementation of HPC applications comparing results with the reference versions executed on scalar cores and/or commercial platforms;
- Compile and execute complex HPC applications on different HPC clusters;

**Requirements**

- **Education**
  - Higher Education in Computer Science, Electrical or Computer Engineering, Physics or Mathematics

- **Essential Knowledge and Professional Experience**
  - Knowledge of the compilation / execution flow of complex HPC applications
  - Knowledge of math kernels (e.g., FFT, SpMV, Graph algorithms)

- **Additional Knowledge and Professional Experience**
  - Experience with hardware description languages (Verilog, SystemVerilog, VHDL) will be considered

- **Competences**
  - Understanding of operating system and compilers
  - Advanced knowledge of high-level programming languages

**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: 1 Sep 2022
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