224_CS_OS_R/RE

Job Reference

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Position

RTL designer ? Postdoc for research project (R2)

Data de tancament

Dimecres, 28 Febrer, 2018

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 500 staff from 44 countries.

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BSC-CNS YouTube Channel

BSC-CNS Corporate Video

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Context and Mission

We are offering a junior PostDoc position in the operating system/computer architecture interface group. In this group, currently, we have collaboration projects mainly focused on real-time and high-performance systems like those in autonomous cars, satellites, planes, trains and the like. Our work is mainly done in the context of bilateral projects with several processor companies as well as several European-funded projects. For a complete list of publications of the group in the last years, please visit: www.bsc.es/caos
Applications are invited for PostDocs ready to conduct RTL implementations and, potentially, related research, as part of the research lines of the Computer Architecture Operating System Department (http://www.bsc.es/caos) at Barcelona Supercomputing Center (BSC-CNS).

As part of previous EU projects we have led and projects with the European Space Agency, we have been using the NGMP/LEON3 multicore. This line of work has been useful to show in top journals and conferences the viability of some of our proposed solutions to increase performance predictability in multicore processors. Our goal is to start a new line of work with similar objective on a RISC-V multicore. We also plan to cover other architectures, e.g. ARM based on the RTL code availability for academic/research purposes.

**Key Duties**

- Perform RTL implementations and integrations on existing RTL prototypes as part of the research duties of the group. More specifically, some components will need being integrated and enhanced as part of a RISC-V/ARM multicore processor for performance predictability purposes
- Working on extending the Performance Monitoring Unit (PMU) to better quantify contention in shared resources in multi/manycore processors and to help debugging parallel applications
- Depending on the skills of the candidate, the candidate will also assume some degree of participation in the research choices related to these RTL implementations

**Requirements**

- **Education**
  - PostDoc in Computer Sciences or Telecommunications
- **Essential Knowledge and Professional Experience**
  - Experience on RTL design and verification
  - Experience on FPGA prototyping and RTL simulation tools
  - (Optionally) experience on software integration and performance evaluation on FPGA prototypes
- **Competences**
  - Good written and verbal communication skills in English
  - Ability to work in a professional environment within a multidisciplinary and international team
  - Critical and creative thinking skills
  - Ability Capacity to interact and build strong relations with a diverse members/stakeholder/staff base
  - Ability to work independently and in a team
  - 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 hours, extensive training plan, tickets restaurant, private health insurance, fully support to the relocation procedures
- 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**

All applications must include:

- A motivation letter with a statement of interest, including two contacts for further references
- A full CV including contact details

**Deadline**

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

**Diversity and Equal Opportunity Employment**

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.

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