Job Reference

204_CS_WDC_RE1RE2

Position

Junior Developer for performance analysis on High Performance Computing (RE1/RE2)

Data de tancament

Dissabte, 31 Març, 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.

Look at the BSC experience:

BSC-CNS YouTube Channel  BSC-CNS Corporate Video  Let's stay connected with BSC Folks!

Context and Mission

The Barcelona Supercomputing Center is carrying out multidisciplinary research to address challenges towards next generation computing systems, developing energy efficient and high performance hardware and software platforms. The Computer Science Department is offering a position to enroll in the HUMAN BRAIN PROJECT (HBP), one of the most important European projects running right now in the EC (Future and Emerging Technologies Flagship project). In the context of this project, we will provide a service for neuroscientists where they can submit their codes and we will help them by doing a PERFORMANCE ANALYSIS of their codes and a PERFORMANCE OPTIMISATION when possible, to achieve the maximum efficiency of parallel codes.
We are looking for a highly motivated candidate (either part or full-time) willing to enroll in the Dynamic Load Balancing Team, with the objective of running performance analyses and improving parallel neuroscience applications when they are run in supercomputers. The candidate can be studying Computer Science (or a similar topic), graduated, or with a Master or PhD degree (the salary will match the candidate’s expertise).

Key Duties

- Performance analysis of parallel applications (MPI, OpenMP/OmpSs and hybrid MPI+OpenMP/OmpSs) with the corresponding tools (e.g. Paraver or similar)
- Performance improvement of parallel applications (MPI, OpenMP/OmpSs and/or hybrid MPI+OpenMP/OmpSs programming models)
- Interaction with users requesting a performance analysis of their code
- Participation in the preparation of project deliverables
- Participation in dissemination tasks

Requirements

- **Education**
  - Studying Computer Science (or a similar topic), graduated, or with a Master or PhD degree

- **Essential Knowledge and Professional Experience**
  - Experience in High Performance Computing environments
  - Computer architecture knowledge, especially in multi processors
  - Experience with Unix/Linux environments (specifically in supercomputers)
  - Experience with application performance analysis and code optimization
  - Experience with MPI, OpenMP and/or OmpSs parallel programming models
  - Skills in programming languages (C/C++, Python, Perl, Bash)

- **Competences**
  - Critical and creative thinking skills
  - Ability to take initiative, prioritize and work under set deadlines and pressure
  - Ability to work independently and in a team
  - Excellent written and verbal communication skills
  - Capacity to interact and build strong relations with a diverse members/stakeholder/staff base

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, home office, 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.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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