153_CS_CAOS_R1

Job Reference

153_CS_CAOS_R1

Position

PhD Student for Extreme Behaviour Analysis - R1

Data de tancament

Dimarts, 31 Juliol, 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

The Computer Architecture and Operating System group at the Barcelona Supercomputing Center aims at carrying out research on programming models for critical embedded systems in charge of controlling fundamental parts of cars, airplanes and satellites. 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

The objective of this position is to investigate on the reliable and tight modelling of extreme behavior of non-functional metrics of critical real-time systems (mostly execution time). This includes investigating alternatives more powerful than Extreme Value Theory, analyzing the impact of dependencies across measurements for complex applications, and considering multivariate problems building on Performance Monitoring Counters information.
Key Duties

- Devise theoretical methods and practical application protocols for extreme behavior prediction, for instance, for high execution times.
- Investigate existing and new methods to model dependencies across measurements to predict both, global and conditional upper-bounds.
- Enrich extreme behavior prediction methods for multivariate problems building on multiple hardware sensors.

Requirements

- Education
  - Master or Grade on Mathematics or Statistics
  - Master on Sciences discipline, preferably on Mathematics, Statistics or Computer
- Essential Knowledge and Professional Experience
  - Knowledge on R, C, Python programming, and LaTeX
- Additional Knowledge and Professional Experience
  - Experience on extreme behavior modelling is very welcome
- Competences
  - Problem-solving, pro-active, result-oriented work attitude
  - Good communication skills including a good command of the English language (written and spoken)

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: 01/09/2018

Applications Procedure

All applications must include:

- A motivation letter with a statement of interest, including two contacts for further references - COMPELLSARY - Applications without this document will not be considered
- 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