354_22_CS_CAOS_RE3

Job Reference

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Position

METASAT Senior Research Engineer (RE3)

Data de tancament

Dilluns, 31 Octubre, 2022
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Job title: METASAT Senior Research Engineer (RE3)

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 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

This position will be contributing in the METASAT Horizon Europe project which is coordinated by BSC. METASAT will develop open source, model based engineering solutions for the space domain, targeting advanced hardware features such as Graphics Processing Units (GPUs) and AI accelerators as well as advanced software methods such as hypervisor technologies and safety critical APIs. The work will be performed in collaboration with leading research and industrial partners in the aerospace domain.
The senior research engineer is expected to have a leadership role within the project, working closely with the project coordinator and the project manager. In addition to managing and leading the project’s research oriented technical and development activities, the candidate is expected to contribute in deliverable and research paper writing, project reviews and meetings, as well as to contribute in the writing of new research proposals. The technical and research work performed in the project can lead to a PhD degree with partial funding of tuition fees, in case the candidate is interested in this option.

**Key Duties**

- Manage and lead METASAT’s research oriented technical activities
- Develop and maintain high quality development processes for METASAT open source contributions
- Participation in the project planning and ensuring that deadlines are met
- Project deliverable and report writing
- Preparation and participation in project reviews
- Writing of research papers
- Contribution in the writing of new research and industrial project proposals

**Requirements**

- **Education**
  - Bachelor’s Degree in Computer Science, Computer Engineering or a related field
  - Master’s degree or a PhD in Computer Architecture or similar
  - Demonstrated experience with GPU programming languages, ideally through a Master thesis or other long-term project
  - Demonstrated experience with safety critical software in aerospace, automotive, avionics or similar domain
  - Prior experience in large international projects, ideally in European Projects (FP6, FP7, H2020 or Horizon Europe)
  - Prior project management and process development management experience
  - Demonstrated programming skills through contributions to open source projects or open source releases of own projects are appreciated

- **Essential Knowledge and Professional Experience**
  - C, C++, Python programming
  - At least one of GPU programming languages (CUDA, OpenCL, Vulkan or other)
  - At least one safety critical programming standard (MISRA C/C++, OpenGL SC 1.0.1/2.0, Vulkan SC or other)
  - LaTeX

- **Additional Knowledge and Professional Experience**
  - A minimum of 5 years of work experience in EU project development and/or management
  - Experience with compiler development such as gcc, llvm or other compiler frameworks
  - Experience with embedded GPU platforms
  - Knowledge of supercomputer/cluster usage
  - Experience with real-time, critical systems and/or reliability
  - Previous experience and scientific publications will be valued
  - Experience with preparation and processing of technical and deliverable reports
  - Awards and Distinctions will be valued

- **Competences**
- Problem-solving, pro-active, result-oriented work attitude
- Ability to perform work both individually as well as in a team
- Good communication skills including a good command of the English language (written and spoken)
- Daily communication with international project partners
- Ability to juggle multiple priorities with efficiency and work in a fast-paced, dynamic, deadline-oriented environment

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: 01/10/2022

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