325_19_CS_CAOS_R01

Job Reference

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Position

Processor design Master or PhD student (R01)

Data de tancament

Divendres, 31 Gener, 2020
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Job title: Processor design Master or PhD student (R01)

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 650 staff from 49 countries.

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BSC-CNS YouTube Channel
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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 work and/or research in a small team on hardware design, part of a larger research group on space, avionics and automotive system design and validation. The student will be mentored by experienced senior researchers, will collaborate with engineers taking care of major
developments, and interact with other students working in related topics as part of a very active research
group carrying out collaborations with Airbus, the European Space Agency, some of the major industrial
players in the automotive, avionics and space industry, as well as several research institutions all over
Europe.
The developments and investigations will occur in the scope of European projects, and will be implemented
on suitable FPGAs. The student is expected to have some knowledge on RTL, VHDL or Verilog
programming. An initial phase to familiarize with the tools and prototyping environment with the help of
engineers and other students is expected. Motivation and ability to learn quickly are more important than
experience for this position.

Key Duties

- Participate in the development and/or investigation of new processor designs targeting the space,
avionics or automotive domains as part of a team.
- Implement developments in FPGA prototypes with the help of experienced engineers and students.
- Participate in the development of simple software programs or hardware support to test the features
  and performance of the designs prototyped.
- Opportunities to participate in and travel to academic and industrial conferences to present his/her
developments (mentored by senior researchers)

Requirements

- Education
  - Grade and or Master degree in Electronics, Computer Sciences or Telecommunications

- Essential Knowledge and Professional Experience
  - Some practical experience designing digital hardware designs (RTL, VHDL or Verilog)
  - Familiarity with basics on digital processor or microcontroller designs, either as part of his/her
    studies or work experience

- Additional Knowledge and Professional Experience
  - Knowledge on processor microarchitecture (e.g. Arm, Infineon, Intel, or AMD processors
    among others) is welcome
  - Knowledge on electronics is welcome
  - Experience with FPGA use and debug tools is also 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 working hours, extensive training plan, tickets restaurant, private health insurance, fully support to the relocation procedures
- Duration: Temporary - 3 years renewable
- 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: 01/12/2019

Applications Procedure

All applications must include:

- A Cover Letter with a statement of interest in English, including two contacts for further references - Applications without this document will not be considered
- A full CV in English 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.

This position is reserved for candidates who meet the requirements and have the legal status of disabled persons with a degree of disability equal to or greater than 33%. In case there are no applicants with disabilities that meet the requirements, the rest of the candidates without declared disability will be evaluated.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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