2018-00424 - [Campagne post-doctorat 2018/CRI PARIS] - Post-Doctoral Researcher on mixed-criticality multicore scheduling

Contract type : Public service fixed-term contract  
Renewable contract : Oui  
Level of qualifications required : PhD or equivalent  
Fonction : Post-Doctoral Research Visit  
Level of experience : Up to 3 years

Context

The members of the AOSTE2 team (https://www.inria.fr/equipes/aoste2) study time critical embedded communicating systems. Their results concern both probabilistic and non-probabilistic approaches while the interactions between different variability factors are considered. Currently, they collaborate with the partners of the FUI collaborative projects CEOS (https://www.ceos-systems.com) and WARUNA.

Assignment

The position is dedicated to the study of the multicore scheduling for mixed-criticality applications while considering the impact of scheduling choices on the worst-case execution time of those applications. Solutions based on global and partitioned approaches will be compared for multicore processors that use architecture features like caches, pipelines and branch-predictors. Two case studies allow to validate the approach in the context of drone applications and autonomous cars.

Main activities

- Propose scheduling algorithms based on global and partitioned scheduling approaches taking into account communications
- Study the schedulability conditions of those algorithms
- Compare their performances
- Participate to the team collaborations with partners within Inria and outside Inria
- Participate to the drafting of technical documents and to their presentation in the main scientific events of our domain

Skills

Technical skills and level required: real-time scheduling background

Languages: English

Other valued appreciated:

- strong mathematical background
- statistical estimation
- good understanding of the interactions between the modelling and the implementation of a embedded communicating system

Benefits package

- Subsidised catering service
- Partially-reimbursed public transport

Remuneration

- Location: Paris 12ème
- Gross Salary per month: 2 653€ brut/mensuel

General Information

- Theme/Domain : Embedded and Real-time Systems  
  System & Networks (BAP E)  
- Town/city : Paris  
- Inria Center : CRI de Paris  
- Starting date : 11/1/18  
- Duration of contract : 1 year, 4 months  
- Deadline to apply : 3/23/18

Contacts

- Inria Team : AOSTE2  
- Recruiter : Sorel Yves / yves.sorel@inria.fr

Conditions for application

Defence Security :

This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST). Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

Recruitment Policy :

As part of its diversity policy, all Inria positions are accessible to people with disabilities.

Warning : you must enter your e-mail address in order to save your application to Inria. Applications must be submitted online on the Inria website. Processing of applications sent from other channels is not guaranteed.
Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.