Offer #2025-08564

PhD Position F/M Real-Time execution of AI algorithms on embedded systems with partitioned memory

Level of qualifications required : Graduate degree or equivalent

Fonction : PhD Position

About the research centre or Inria department

The Inria University of Lille centre, created in 2008, employs 360 people including 305 scientists in 15 research teams. Recognised for its strong involvement in the socio-economic development of the Hauts-De-France region, the Inria University of Lille centre pursues a close relationship with large companies and SMEs. By promoting synergies between researchers and industrialists, Inria participates in the transfer of skills and expertise in digital technologies and provides access to the best European and international research for the benefit of innovation and companies, particularly in the region.For more than 10 years, the Inria University of Lille centre has been located at the heart of Lille's university and scientific ecosystem, as well as at the heart of Frenchtech, with a technology showroom based on Avenue de Bretagne in Lille, on the EuraTechnologies site of economic excellence dedicated to information and communication technologies (ICT).

Context

The PhD student will work at the Inria Center of the University of Lille. The thesis is part of an informal collaboration with the RETIS Lab of the Scuola Superiore Sant'Anna of Pise

Travel expenses are covered within the limits of the scale in force.

Assignment

For a better knowledge of the proposed research subject :
A state of the art, bibliography and scientific references are available at thefollowing URL.

Main activities

The main activities are:

- Study of the state of the art;
- Proposing new software and hardware models for the analysis and optimization;
- Development of a RTOS library for supporting modern real-time applications on scratchpad-based memory architectures;
- Writing technical reports and research articles. Submitting articles to scientific conferences and journals of the domain.

Skills

- Master diploma in Computer Science or Computer Engineering
- Good mastering of C/C++ programming
- Advanced knowledge in Operating Systems and Computer Architectures

Benefits package

- Subsidized meals
- Partial reimbursement of public transport costs
- Leave: 7 weeks of annual leave + 10 extra days off due to RTT (statutory reduction in working hours) + possibility of exceptional leave (sick children, moving home, etc.)
- Possibility of teleworking and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)

- Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage

General Information

- **Theme/Domain :** Embedded and Real-time Systems
  System & Networks (BAP E)
- **Town/city :** Villeneuve d'Ascq
- **Inria Center :** Centre Inria de l'Université de Lille
- **Starting date :** 2025-10-01
- **Duration of contract :** 3 years
- **Deadline to apply :** 2025-03-24

Contacts

- **Inria Team :** SYCOMORES
- **PhD Supervisor :**
  Lipari Giuseppe / giuseppe.lipari@inria.fr

About Inria

Inria is the French national research institute dedicated to digital science and technology. It employs 2,600 people. Its 200 agile project teams, generally run jointly with academic partners, include more than 3,500 scientists and engineers working to meet the challenges of digital technology, often at the interface with other disciplines. The Institute also employs numerous talents in over forty different professions. 900 research support staff contribute to the preparation and development of scientific and entrepreneurial projects that have a worldwide impact.

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.

Instruction to apply

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.