Job vacancy #2023-06693

Engineer: design of enhanced services for 5G in the context of Paris Olympic Games

Contract type: Fixed-term contract

Level of qualifications required: Graduate degree or equivalent

Other valued qualifications: PhD in networking or computer sciences

Fonction: Temporary scientific engineer

Level of experience: Recently graduated

About the research centre or Inria department

The Inria research centre in Lyon is the 9th Inria research centre, formally created in January 2022. It brings together approximately 300 people in 16 research teams and research support services.

Its staff is distributed at this stage on 2 campuses: in Villeurbanne La Doua (Centre / INSA Lyon / UCBL) on the one hand, and Lyon Gerland (ENS de Lyon) on the other.

The Lyon centre is active in the fields of software, distributed and high-performance computing, embedded systems, quantum computing and privacy in the digital world, but also in digital health and computational biology.

Context

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Context

This position is funded by a national collaborative project to sustain the development of new 5G applications in the context of the Paris 2024 Olympic games. You will join the research team MARACAS to contribute to the study of new location based services exploiting the features of 5G.

In this context, localization aided services, caching, joint communication and sensing and new technical properties will be evaluated for possible usage in the context of sportive events.

Assignment

The recruited engineer or postdoc, will be part of the Maracas team and will collaborate with the project partners to elaborate new usecases and technical solutions relying on the features of the 5G technology.

Depending on the skills of the candidate, the work can cover theoretical, algorithmic or experimental contributions.

The topics will cover:

- Optimization of video broadcasting with 5G-MBMS.
- Decentralized control of equipments through 5G network.
**Main activities**

- System and network engineering: setup innovative solutions for 5G enhanced services.
- Evaluation of 5G standard advanced features, elaboration of new services relying on these technologies.
- Experimentation on O-RAN implementation.
- Possible prototyping on the platform SLICES/CorteXlab
- Writing documentation.

**Skills**

**Required Skills:**

- Excellent knowledge of 4G/5G network protocols.
- Signal processing, Radio transmission, GNU Radio
- Machine learning
- Autonomy for conducting tasks
- Good team work and interaction with researcher using the platform, both in French and in English
- Good writing skills for documentations
- Beginner or first professional experience accepted
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- Good team work and interaction with researcher using the platform, both in French and in English
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**Knowledge in the following topics are not mandatory but are a plus:**

- Good programming skills in Python, or alternatively very good skills in other programming languages insuring a quick adaptation in a Python development environment
- Good practices in Devops style development: version control (git), automatic deployment and configuration (Ansible or Puppet or similar technologies)

**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 (90 days / year) 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 under conditions

**Remuneration**

From 2,692 € (depending on experience and qualifications).

**General Information**

- **Theme/Domain:** Networks and Telecommunications
  System & Networks (BAP E)
- **Town/city:** Villeurbanne
- **Inria Center:** [Centre Inria de Lyon](https://www.inria.fr)
Starting date: 2023-11-01
Duration of contract: 1 year
Deadline to apply: 2023-11-05

Contacts

- Inria Team: MARACAS
- Recruiter: Gorce Jean-marie / jean-marie.gorce@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.

The keys to success

You are a young engineer with a deep interest for new technologies in the area of networks and especially cellular wireless networks.

You have strong skills in network design and programming, and experimentation. You want to become an expert in wireless network technologies, from layer 1 to layer 3.

You are curious, open-minded, talented and you would like to collaborate within a group of engineers.

You want to contribute to the first worldwide international testbed to contribute to the design of future 5G/6G technologies.

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

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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.