2018-00348 - Software engineer / Audio-visual perception for robotics

Renewable contract : Oui
Level of qualifications required : Graduate degree or equivalent
Fonction : Temporary scientific engineer

About the research centre or Inria department
Grenoble Rhône-Alpes Research Center groups together a few less than 800 people in 35 research teams and 9 research support departments.

Staff is localized on 5 campuses in Grenoble and Lyon, in close collaboration with labs, research and higher education institutions in Grenoble and Lyon, but also with the economic players in these areas.

Present in the fields of software, high-performance computing, Internet of things, image and data, but also simulation in oceanography and biology, it participates at the best level of international scientific achievements and collaborations in both Europe and the rest of the world.

Context
Perception team (https://team.inria.fr/perception), at INRIA Grenoble Rhône-Alpes and Jean Kuntzman Laboratory at Grenoble Alpes University, works on computational models for mapping images and sounds onto meaning and actions. The team members address these challenging topics: computer vision, auditory signal processing and scene analysis, machine learning, and robotics. In particular, we develop methods for the representation and recognition of visual and auditory objects and events, audio-visual fusion, recognition of human actions, gestures and speech, spatial hearing, and human-robot interaction.

The team uses humanoid robots to demonstrate its results and it develops a software platform to ease implementation and integration of robotics software.

Assignment
We are seeking an engineer to fulfill the following missions:

- Co-develop software solutions with researchers, PhD students and engineers of the team. Developed algorithms address the following topics: computer vision, multi-modal signal processing, machine learning.
- Perform data acquisition and data annotation to ease the benchmarking of learning methods developed by the team. These datasets are also used when testing on robots.
- Maintain software already developed by the team: integration tests, benchmarks, etc.

Main activities
- Implement software solutions based on algorithms developed by the team.
- Propose set-up for dataset acquisition. Manage software tests to validate software performances and robustness in simulation mode and on robotic platforms.
- Write deliverables.
- Participate to technical meetings with team members.

Skills
- Required : C/C++, Linux, Git, CMake
- Desired : Bash, Jenkins, ROS, Python, OpenCV, Boost, Qt, Matlab
- Appreciated : signal processing, mobile robotics, computer vision
- English : fluent (technical)

Benefits package
Restaurant on site
Financial participation for public transport
Social security
Social and sporting activities
Arranging working time
French courses

Remuneration
Between 2562€ and 2936€ (gross salary), depending of seniority.
General Information

- **Theme/Domain**: Vision, perception and multimedia interpretation
  - Software engineering (BAP E)
- **Town/city**: Montbonnot
- **Inria Center**: CRI Grenoble - Rhône-Alpes
- **Starting date**: 2018-12-01
- **Duration of contract**: 12 months
- **Deadline to apply**: 2018-11-05

Contacts

- **Inria Team**: PERCEPTION
- **Recruiter**: Sarrazin Guillaume / guillaume.sarrazin@inria.fr

About Inria

Inria, the French National Institute for computer science and applied mathematics, promotes “scientific excellence for technology transfer and society”. Graduates from the world’s top universities, Inria’s 2,700 employees rise to the challenges of digital sciences. With its open, agile model, Inria is able to explore original approaches with its partners in industry and academia and provide an efficient response to the multidisciplinary and application challenges of the digital transformation. Inria is the source of many innovations that add value and create jobs.

The keys to success

- You are rigorous, have an analytical mind.
- You work autonomously and you know how to define priorities.
- A former experience in robotics is welcome.
- You like working in an international and multi-cultural environment.

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). Authorization 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.