2019-02081 - Engineer on Deep Learning and Cloud Computing

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

About the research centre or Inria department

Grenoble Rhône-Alpes Research Center groups together a few less than 800 people in 39 research teams and 8 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

The job will be located in Grenoble, France, and will be part of the Perception Inria research group. The team focuses on robotics, audio-visual analysis and applied machine learning, and is made of 3 faculty members, 1 permanent engineer, approx. 5 PhD students and 4 postdocs and engineers. The team is very international and English is the working language. The position is line with the recently awarded H2020 ICT SPRING project.

SPRING – Socially Pertinent Robots in Gerontological Healthcare – is a 4-year R&D project fully funded by the European Commission under the H2020 framework. SPRING aims to develop socially assistive robots with the capacity of performing multi-person interactions and open-domain dialogue. The scientific objective of SPRING is to develop a novel paradigm and novel concept of socially-aware robots, and to conceive innovative methods and algorithms for computer vision, audio processing, sensor-based control, and spoken dialog systems based on modern statistical- and deep-learning to ground the required social robot skills. The technological objective of SPRING is to create and launch a brand new generation of robots that are flexible enough to adapt to the needs of the users, and not the other way around. The experimental objective of SPRING is twofold: to validate the technology based on HRI experiments in a gerontology hospital, and to assess its acceptability by patients and medical staff.

The project gathers academic and industrial partners in Italy (Università degli Studi di Trento), Czech Republic (Cesku Vysokou Ucení Technické v Praze), UK (Heriot-Watt University), Israel (Bar-Ilan University), Spain (PAU Robotics) and France (ERM Automatismes Industriels; Assistance Public Hôpitaux de Paris; and Inria). Frequent travel to visit partners is required (up to 5 times a year).

Assignment

The Perception team offers a development engineer position to work in the field of deep learning for multi-modal human-robot interaction. The recruited engineer will have the following missions: develop advanced deep learning software based on state-of-the-art neural network architectures and cloud computing; assist the team researchers to implement their algorithms using advanced deep learning libraries and software packages; ensure software robustness and re-usability; prepare software for data collection and data annotation; install and maintain deep learning computing resources (software and hardware). The recruited engineer will work in close collaboration with the group members (two senior researchers, 4-5 PhD students and three development engineers) and with the SPRING partners.

Main activities

- Develop deep learning software that is robust and re-usable.
- Advise the Team’s researchers on implementing their deep and machine learning methods.
- Manage the software/hardware computing resources.

Skills

The candidates should have strong expertise in deep learning software development (Keras, PyTorch), excellent programming skills in Python, very good expertise in data management, and be fluent in English, both written and spoken. Expertise in other programming environments such as C++, Linux background (command line, shell scripting) and good knowledge of cooperative software development (Git, CI, testing... ) is highly welcome.

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 (after 6 months of employment) 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

Remuneration

From 2652€ to 5264€ gross per month (according to the experience)

General Information

- Theme/Domain : Vision, perception and multimedia interpretation
- Software Experimental platforms (BAP E)
- Town/City : Montbonnot
- Inria Center : CRI Grenoble - Rhône-Alpes
- Starting date : 2020-02-01
- Duration of contract: 2 years
- Deadline to apply : 2019-12-31

Contacts

- Inria Team : PERCEPTION
- Recruiter : Alameda-pineda Xavier / xavier.alameda-pineda@inria.fr

About Inria

Inria, the French national research institute for the digital sciences, promotes scientific excellence and technology transfer to maximise its impact. It employs 2,400 people. Its 200 agile project teams, generally with academic partners, involve more than 3,000 scientists in meeting the challenges of computer science and mathematics, often at the interface of other disciplines. Inria works with many companies and has assisted in the creation of over 160 startups. It strives to meet the challenges of the digital transformation of science, society and the economy.

The keys to success

There you can provide a "broad outline" of the collaborator you are looking for what you consider to be necessary and sufficient, and which may combine :

- tastes and appetencies,
- area of excellence,
- personality or character traits,
- cross-disciplinary knowledge and expertise..

This section enables the more formal list of skills to be completed and "lightened" (reduced)

- "Essential qualities in order to fulfil this assignment are feeling at ease in an environment of scientific dynamics and wanting to learn and listen."
- "Passionate about innovation, with expertise in Ruby on Rails development and strong influencing skills. A thesis in the field of "xxx" is a real asset."

Instruction to apply

Defence Security :
This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-425 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.