



Offer #2024-07530

Robotics Junior Engineer

Contract type : Fixed-term contract

Renewable contract : Yes

Level of qualifications required : Graduate degree or equivalent

Fonction : Temporary scientific engineer

Level of experience : Recently graduated

About the research centre or Inria department

The Inria Grenoble - Rhône-Alpes research center groups together almost 600 people in 22 research teams and 7 research support departments.

Staff is present on three campuses in Grenoble, in close collaboration with other research and higher education institutions (Université Grenoble Alpes, CNRS, CEA, INRAE, ...), but also with key economic players in the area.

Inria Grenoble - Rhône-Alpes is active in the fields of high-performance computing, verification and embedded systems, modeling of the environment at multiple levels, and data science and artificial intelligence. The center is a top-level scientific institute with an extensive network of international collaborations in Europe and the rest of the world.

Context

RobotLearn aims to develop socially assistive robots with the capacity to perform multi-person interactions and open-domain dialogue. We conceive innovative methods and algorithms for computer vision, audio processing, and sensor-based control for socially-aware robots based on modern statistical- and deep learning to ground the required social robot skills.

Our scientific ambition of RobotLearn is to train robots to acquire the capacity to look, listen, learn, move, and speak in a socially acceptable manner. This is being achieved via a fine tuning between scientific findings, development of practical algorithms and associated software packages, and thorough experimental validation. RobotLearn team members plan to endow robotic platforms with the ability to perform physically unconstrained and open-domain multi-person interaction and communication.

The roadmap of RobotLearn is twofold: (i) to develop machine learning techniques for the temporal and spatial alignment of audio and visual data, variational Bayesian methods for unimodal and multimodal tracking of humans, and deep learning architectures for audio and audio-visual speech enhancement, and (ii) to explore novel scientific research opportunities at the crossroads of discriminative and generative deep learning architectures, Bayesian learning and inference, computer vision, audio/speech signal processing, spoken dialog systems, and robotics.

The paramount applicative domain of RobotLearn is the development of multimodal and multi-party interactive methodologies and technologies for social (companion) robots.

Assignment

The RobotLearn team offers a development engineer position to work in the field of multi-modal human-robot interaction. The recruited engineer will have the following missions: port the deep learning and other algorithms and software onto a robotic platform; conduct experiments involving the robotic platform and participants; ensure software robustness and re-usability; prepare software for data collection and data annotation. The recruited engineer will work in close collaboration with the group members (researchers, PhD students, and development engineers).

Main activities

- Developing software for robotic applications that is robust and re-usable.
- Porting the software onto a robotic platform and validate it via experiments.
- Update existing software to exploit recent features of 3rd party software such as PyTorch and ROS.

Skills

The candidates should have excellent programming skills in Python, and be fluent in English, both written and spoken. The following expertise is highly welcome: working with ROS (1 and 2) and developing ROS modules, software development using PyTorch, C++, working with Linux (command line, shell scripting), and cooperative software development (Git, CI, testing, ...).

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** : Robotics and Smart environments
Software Experimental platforms (BAP E)
- **Town/city** : Montbonnot
- **Inria Center** : [Centre Inria de l'Université Grenoble Alpes](#)
- **Starting date** : 2024-07-01
- **Duration of contract** : 6 months
- **Deadline to apply** : 2024-06-30

Contacts

- **Inria Team** : [ROBOTLEARN](#)
- **Recruiter** :
Alameda Pineda Xavier / xavier.alameda-pineda@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.