Offer #2020-02359

Post-Doctoral Research Visit F/M Learning controllable representations that evolve over time

Contract type : Fixed-term contract

Level of qualifications required : PhD or equivalent

Fonction : Post-Doctoral Research Visit

About the research centre or Inria department

The Inria Lille - Nord Europe Research Centre was founded in 2008 and employs a staff of 360, including 300 scientists working in sixteen research teams. Recognised for its outstanding contribution to the socio-economic development of the Hauts-De-France région, the Inria Lille - Nord Europe Research Centre undertakes research in the field of computer science in collaboration with a range of academic, institutional and industrial partners.

The strategy of the Centre is to develop an internationally renowned centre of excellence with a significant impact on the City of Lille and its surrounding area. It works to achieve this by pursuing a range of ambitious research projects in such fields of computer science as the intelligence of data and adaptive software systems. Building on the synergies between research and industry, Inria is a major contributor to skills and technology transfer in the field of computer science.

Context

The Inria team SequeL is a very active, united, hard-working, internationally renowned and connected research team specialized on theoretical and applied aspects of machine learning for sequential decision making with noisy or partial feedback. It is focused on reinforcement, bandit learning, especially in non-stationary environments.

Our work spans from learning theory, to the design of efficient algorithms, to applications. Our team led to many publications in top conferences such as NeurIPS, ICML, ALT, COLT, AISTATS.

Assignment

In order to act, an agent should learn a representation of the world. Hopefully, the representation of states should be controllable: by learning a representation of the actions, the agent can act on the representations of states. In order for these representations to be meaningful, the actions should modify few independently controllable features of the representations.

For example, in educational assessments, we can learn the latent ability of students as we ask them questions. These latent abilities evolve over time, and lessons act on these representations.

As main outcome, we expect publications at top conferences and journals in machine learning or data mining.

Supervision: Jill-Jênn Vie

Skills

- deep generative models
- reinforcement learning
- recommender systems

Experience in various areas is a plus :

- privacy-preserving ML
- fairness
- causal inference
- applications to education or healthcare.

Benefits package

- Partial reimbursement of public transport costs
- Subsidized meals
- Leave : 7 weeks of annual leave + 10 extra days off due to RTT (statutory reduction in working

hours)
- Possibility of teleworking (after 6 months of employment) and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Access to vocational training
- Possibility of French courses
- Social, cultural and sports events and activities
- Administrative support : Social security coverage/ Help for Housing / Scientific Resident card and help for visa

Remuneration

Gross monthly salary (before taxes) : 2653 €

General Information

- **Theme/Domain :** Optimization, machine learning and statistical methods
  Information system (BAP E)
- **Town/city :** Villeneuve d'Ascq
- **Inria Center :** Centre Inria de l'Université de Lille
- **Starting date :** 2020-06-01
- **Duration of contract :** 1 year, 6 months
- **Deadline to apply :** 2020-02-28

Contacts

- **Inria Team :** SEQUEL
- **Recruiter :**
  Vie Jill Jenn / jill-jenn.vie@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

Send CV, application letter, list of publications to jill-jenn.vie@inria.fr

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.