



Offer #2024-07906

Post-Doctoral Research Visit F/M Postdoc position F/M Foundations of resource-efficient large-scale learning

Contract type : Fixed-term contract

Renewable contract : Yes

Level of qualifications required : PhD or equivalent

Fonction : Post-Doctoral Research Visit

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 17 research teams and research support services.

Its staff are distributed in Villeurbanne, Lyon Gerland, and Saint-Etienne.

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

Within the framework of a partnership

Founded in 1880, the Ecole Normale Supérieure de Lyon (www.ens-lyon.fr) is one of the most prestigious "Grand Écoles" in France with students selected from the top 5% among all students in the country and among the best students from abroad. The mission of the university is training national and international future professors, researchers, senior civil servants as well as business and political leaders, and to advance research in several disciplines ranging from humanity to natural sciences.

Established in 1967, Inria (www.inria.fr) is the only public research body in France fully dedicated to computational sciences. Combining computer sciences with mathematics, Inria's 3,500 researchers strive to invent the digital technologies of the future. Educated at leading international universities, they creatively integrate basic research with applied research and dedicate themselves to solving real problems, collaborating with the main players in public and private research in France and abroad and transferring the fruits of their work to innovative companies.

Assignment

Solid algorithmic and mathematical foundations are essential to endow machine learning systems with guaranteed utility, resource-efficiency and trustworthiness. A particular challenge is to control the tradeoffs between performance and computational footprint to exploit massive data streams.

The recruited postdoc will conduct a vigorous research program within the scope of the project, and is expected to show independence and team working attitude at the same time.

The successful candidate, which can come from different areas (applied mathematics and statistics, signal processing, machine learning, information theory, computer science) is expected to bring expertise to the AllegroAssai task force and will be encouraged to develop collaborations with other groups at ENS de Lyon.

The position is endowed with travel, computing, and experimental resources.

Sample research topics include: *Expressivity and Robustness of Sparse Deep Networks; Provable Algorithms for Sparse Deep Learning; Random Sketches for Efficient Manifold & Graph-based Learning.*

Main activities

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Skills

Candidates should hold a Ph.D., and will either be applied mathematicians with interest for statistical

signal processing, and good programming skills, or originate from signal processing / computer science with solid background in applied mathematics and statistics. Previous experience in sparse signal representations or statistical machine learning is preferred, but experience in related areas is suitable.

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 Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage under conditions

Remuneration

Gross salary: 2788 € gross salary / month (social security included, income tax excluded).

General Information

- **Theme/Domain :** Optimization, machine learning and statistical methods
Statistics (Big data) (BAP E)
- **Town/city :** Lyon
- **Inria Center :** [Centre Inria de Lyon](#)
- **Starting date :** 2024-10-01
- **Duration of contract :** 1 year, 3 months
- **Deadline to apply :** 2024-07-26

Contacts

- **Inria Team :** [OCKHAM](#)
- **Recruiter :**
Gribonval Remi / remi.gribonval@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

Applications must be submitted online via the Inria website. Processing of applications submitted via other channels is not guaranteed.

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.