
Contract type: Public service fixed-term contract
Level of qualifications required: PhD or equivalent
Function: Post-Doctoral Research Visit
Level of experience: Recently graduated

Context
The postdoc position is offered within the MATHERIALS team, which has an internationally recognized expertise in the mathematical study and development of numerical methods in computational statistical physics. The scientific fields covered by members of team range from the analysis of partial differential equations to stochastic processes and probabilistic methods, with a balanced positioning between fundamental theoretical studies and actual applications.

Assignment
The aim of the postdoctoral work will be to adapt successful methods from computational statistical physics to problems of machine learning, and demonstrate their efficiency on actual applications. Situations of interest include Bayesian inference on large data sets and/or training of neural networks using generalizations of stochastic gradient dynamics. This work will be supervised by Tony Lelievre and Gabriel Stoltz.

Main activities
The postdoctoral fellow will conduct his/her research within the MATHERIALS team, based at Ecole des Ponts. He/She will write research articles and present his/her work in international conferences, both in the fields of computational statistical physics and machine learning (NIPS, AISTAT, ICML). He/She will also attend working groups and other activities of direct interest to the project at the Turing Institute in London.

Skills
Candidates are required to have experience in performing numerical simulations and devising new numerical methods.

Benefits package
- Subsidised catering service
- Partially-reimbursed public transport

Remuneration
- Location: CERMICS, Ecole des Ponts
  6/8 avenue Blaise Pascal
  77455 Marne-la-Vallée Cedex 2
- Gross Salary per month: 2 653€ brut/mensuel

General Information
- Theme/Domain: Optimization, machine learning and statistical methods
  Scientific computing (BAP E)
- Town/city: Champs-sur-Marne
- Inria Center: CRI de Paris
- Starting date: 2018-10-01
- Duration of contract: 1 year, 6 months
- Deadline to apply: 2018-05-31

Contacts
- Inria Team: MATHERIALS
- Recruiter: Stoltz Gabriel / gabriel.stoltz@inria.fr

The keys to success
Applicants should hold a PhD in applied mathematics, statistics or computer science, with a competitive track record. They should either be familiar with models and techniques in machine learning and willing to learn methods from computational statistical physics, or, on the contrary, be familiar with techniques from computational statistical physics and willing to use them for machine learning problems.

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.

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). 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.