Offer #2025-08884

Research Engineer in AI

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 Saclay-Île-de-France Research Centre was established in 2008. It has developed as part of the Saclay site in partnership with **Paris-Saclay University** and with the **Institut Polytechnique de Paris** .

The centre has **40 project teams** , 32 of which operate jointly with Paris-Saclay University and the Institut Polytechnique de Paris; Its activities occupy over 600 people, scientists and research and innovation support staff, including 44 different nationalities.

Context

The engineer will be part of the OPIS project team, reporting to team leader Emilie Chouzenoux.

The project will be carried out in collaboration with E. Chouzenoux and J.-C. Pesquet (OPIS), C. Lefort, CNRS research scientist at XLIM, Limoges, and the CHU of Limoges.

This is a one-year contract, renewable once.

Assignment

CARS Microscopy (Coherent Anti-Stokes Raman Scattering) is an advanced nonlinear optical imaging technique that enables the acquisition of vibrational information from biomedical samples without labeling (label-free). The use of broadband laser sources known as "supercontinuum" has been introduced to explore all the energy transitions of the sample. With spectral detection of the instrument, M-CARS imaging becomes hyperspectral (HM-CARS). Each pixel in the image contains a spectrum of 1024 points, depending on the composition of the target substances.

Through this original approach, the researchers recently demonstrated that the “silent zone” of an HM-CARS spectrum actually provides discriminating information about the sample. This technique remains unexplored in the biomedical field. The current method of data processing is tedious and can encounter a number of practical difficulties.

The main objective of this work is to exploit the database through the development of fast, accurate and automatized AI strategies to identify discriminating information related to muscular diseases.

Main activities

- Understand the image processing problem
- Analyze the database
- Deploy a supervised AI approach to solve the problem
- Write scientific reports
- Participate in scientific meetings with collaborators

Skills

- Proficiency in the Python programming language and the PyTorch or TensorFlow environment is required.
- Experience in machine learning / neural networks is strongly recommended.

Benefits package

- Canteen and cafeteria;
- Sports equipment;
- Transport reimbursement

Remuneration

Regarding professional experience

General Information

- **Theme/Domain :** Optimization, machine learning and statistical methods Statistics (Big data) (BAP E)
- **Town/city :** Gif sur Yvette
- **Inria Center :** Centre Inria de Saclay
- **Starting date :** 2025-09-01
- **Duration of contract :** 12 months
- **Deadline to apply :** 2025-08-31

Contacts

- **Inria Team :** OPIS
- **Recruiter :**
  Chouzenoux Emilie / emilie.chouzenoux@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.

The keys to success

We are looking for a motivated and talented student with an engineering degree or Master's 2 specializing in data science / artificial intelligence / image processing / computer vision.

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.