2023-06181 - Engineer in AI and neurosciences

Contract type : Fixed-term contract
Renewable contract : Yes
Level of qualifications required : Graduate degree or equivalent
Other valued qualifications : PhD
Fonction : Temporary scientific engineer
Level of experience : Recently graduated

About the research centre or Inria department

The Inria centre at Université Côte d'Azur includes 37 research teams and 8 support services. The centre's staff (about 500 people) is made up of scientists of different nationalities, engineers, technicians and administrative staff. The teams are mainly located on the university campuses of Sophia Antipolis and Nice as well as Montpellier, in close collaboration with research and higher education laboratories and establishments (Université Côte d'Azur, CNRS, INRAE, INSERM ...), but also with the region's economic players.

With a presence in the fields of computational neuroscience and biology, data science and modeling, software engineering and certification, as well as collaborative robotics, the Inria Centre at Université Côte d'Azur is a major player in terms of scientific excellence through its results and collaborations at both European and international levels.

Context

Within the framework of a partnership (you can choose between)

- collaboration between the Inria Epione team and the startup NeuroPin
- project funded by the French grant 3IA Start-it-up

L'objectif est de

Develop a prototype software which analyses brain MRI images for clinical applications.

Assignment

For a better knowledge of the proposed research subject :

About NeuroPin: we are an early-stage medtech startup developing AI software for neuroradiology. Our mission is to improve lifelong radiology, starting with neurodevelopmental diseases. You will have the opportunity to help build this startup from its foundations, and be a part of a company with social and clinical impact.

For more information, don’t hesitate to reach out by email or visit http://neuropin.squarespace.com/

Collaboration :

The recruited person will be in connection with Antonia Machlouzarides-Shalit, founder of NeuroPin, and Marco Lorenzi, research collaborator and researcher in the Epione team at Inria.

Responsibilities :

The person recruited is responsible for code and software development and will take initiatives for designing a medical technology tool.

Main activities

Responsibilities:

- Work with large datasets of MRI images and anonymised patient information
- Enhance the NeuroPin proof-of-concept software: incorporation of datasets and adding features of anomaly detection, multiple image comparison, and longitudinal analysis.
- Develop algorithms and models for brain chart generation from large datasets.
- Collaborate with a team of researchers and clinicians to integrate the technology into a medical application.
- Create clear documentation and training materials

Additional activities:

- Conceptualize and implement data storage solutions
- Continuously improve the software by incorporating new data and feedback from users and stakeholders.
- Maintain code quality and ensure software scalability.

Skills

Technical skills and level required:

- Bac+5 in Computer Science, Computational Neuroscience, Biomedical Engineering, or related field
- Experience in Python and PyTorch
- Strong problem-solving skills and ability to work independently as well as in a collaborative multidisciplinary environment.

Languages:

General Information

- Town/city : Sophia Antipolis
- Inria Center : Centre Inria d'Université Côte d'Azur
- Starting date : 2023-07-01
- Duration of contract : 6 months
- Deadline to apply : 2023-07-31

Contacts

- Inria Team : INCUB-SOP
- Recruiter : Machlouzarides Shalit Antonia / antonia.machlouzarides-shalit@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 seeking a highly motivated and skilled AI engineer to work on the development of our medical technology prototype from a proof-of-concept software. The individual will be able to work independently as well as in a multidisciplinary team, take initiative, and show interest in medical neuroscience, with a will to learn and incorporate new information.

The individual will also require strong organizational skills and be able to effectively communicate in oral and written English.

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.
English

Relational skills:
- Strong organisational skills
- Strong communication skills in oral and written English
- Experience in code documentation

Other valued appreciated:
- Proficiency in French
- Experience in medical imaging analysis (working with DICOM, NiFTI images, etc)
- Knowledge of front-end and/or back-end software development
- Experience in developing AI/ML models for segmentation, anomaly detection, and/or image processing
- Interest in neuroscience and its applications

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 (after 6 months of employment) 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

Remuneration
From 2652 € gross monthly (according to degree and experience)

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.