



Offer #2024-08439

Software engineer for AI in digital healthcare R&D

Contract type : Fixed-term contract

Renewable contract : Yes

Level of qualifications required : Graduate degree or equivalent

Other valued qualifications : PhD, Post-Doc

Fonction : Temporary scientific engineer

Level of experience : From 3 to 5 years

About the research centre or Inria department

The Inria center at Université Côte d'Azur includes 42 research teams and 9 support services. The center'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 regional 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

Fed-BioMed is an open-source federated learning framework for multi-centric, hospital-based medical applications. It focuses on security, access and interoperability with medical data, federated data preprocessing and harmonization, and lifecycle control by the hospital. Fed-BioMed creates a community of clinical, industry and academic partners fostering the adoption of collaborative learning in real-world medical applications. Fed-BioMed project is supported by Inria.

The EPIONE research team contributes to the development of the digital patient (e-patient) for digital medicine (e-medicine). The e-medicine (or digital medicine) is defined as IT tools applied to the digital patient to assist physicians and surgeons in their medical practice, to evaluate diagnosis/prognosis and to plan, monitor and evaluate therapy.

The Service d'Expérimentation et de Développement (SED) of the Centre Inria d'Université Côte d'Azur leads, coordinates and contributes to Inria development and experimentation activities, working with the scientists on technological actions. The SED from all Inria centers form a network of knowledge and expertise that coordinates to capitalize on the technologies developed in the institute and to develop the hardware and software infrastructures needed for research at Inria.

Assignment

This position is attached to the SED team, and will be working in collaboration with the EPIONE research team.

As a developer in a R&D environment, you'll contribute to the development of the core open-source software of Fed-BioMed.

You will be integrated as a member of the Fed-BioMed core development team, working with Agile methodology inspired from Scrum.

Your goals will be:

- The development and the general maintenance of the core library and the life of the project
- The development of the related prototypes and functionalities integrating the technological ideas proposed by the researchers

The position is based in the campus Inria d'Université Côte d'Azur at the heart of Sophia Antipolis technology park.

Main activities

Your main tasks will be:

- Develop new functionalities, design and implement prototypes
- Review contributions coming from other team members and the community
- Work closely with researchers to convert scientific proof of concepts into production ready code
- Participate to the general maintenance of the framework
- Document the software
- Collaborate with academic, clinical and industrial partners
- Support open source community users
- Join workshops and summits to present and teach the framework

What you will gain in this position:

- Join a project having a positive impact on society, contributing to shape the future of healthcare
- Develop state of the art skills, methods and techniques in software development and machine learning
- Be a player in an open-minded environment
- Work with academic researchers and clinicians, and convert research in real world applications
- Join a young, international, motivated and friendly team

Skills

Experience and training:

- Strong training and experience in software engineering
- Knowledge in one or more of the following fields: Data science / Statistics, Machine Learning, Artificial Intelligence, Optimization
- Knowledge in security for machine learning or computer networks is appreciated
- Experience working in team preferably using Agile methodology is appreciated
- Knowledge in DevOps is appreciated, preferably under Linux
- Experience contributing to an open source project is appreciated
- Experience in an R&D environment is a plus
- Knowledge or experience in digital healthcare is a plus

Skills / know-how:

- Programming languages: Python and at least one other language
- Database: SQL or noSQL
- One or more of the following tools: version management, continuous integration, test driven development, packaging and deployment (git, github, conda, docker)
- Development in one API services (e.g. RESTful, Websockets, RPC) or message broker (e.g. Kafka) technology is appreciated
- Data processing (e.g. numpy, pandas) and data pipelines
- Basic use of Machine Learning libraries (e.g. PyTorch, TensorFlow, Jax, scikit-learn)

- Good writing and communication skills, in technical and scientific English
- Agile methodology is appreciated

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
- Contribution to mutual insurance (subject to conditions)

Remuneration

From 2692 € gross monthly (according to degree and experience).

General Information

- **Town/city** : Sophia Antipolis
- **Inria Center** : [Centre Inria d'Université Côte d'Azur](#)
- **Starting date** : 2025-02-01
- **Duration of contract** : 2 years
- **Deadline to apply** : 2025-01-31

Contacts

- **Inria Team** : SED-SOP (DGD-I)
- **Recruiter** :
Vesin Marc / Marc.Vesin@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

This position is intended for engineers in the field of computer sciences with a proven track of developer (2+ years experience preferred) and a strong attraction for R&D and/or digital healthcare.

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 on the Inria website. Collecting applications by 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.

