Offer #2026-10468

Senior DevOps & Software Engineer

Contract type : Fixed-term contract

Renewable contract : Yes

Level of qualifications required : Graduate degree or equivalent

Fonction : Temporary scientific engineer

Level of experience : From 3 to 5 years

About the research centre or Inria department

Inria is the French National Institute for Research in Digital Science, of which the Inria Côte d'Azur University Center is a part. With strong expertise in computer science and applied mathematics, the research projects of the Inria Côte d'Azur University Center cover all aspects of digital science and technology and generate innovation. Based mainly in Sophia Antipolis, but also in Nice and Montpellier, it brings together 47 research teams and nine support services. It is active in the fields of artificial intelligence, data science, IT system security, robotics, network engineering, natural risk prevention, ecological transition, digital biology, computational neuroscience, health data, and more. The Inria Center at Université Côte d'Azur is a major player in terms of scientific excellence, thanks to the results it has achieved and its collaborations at both European and international level.

Context

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, t 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.

The Service Expérimentation et Développement (SED) of the Centre Inria d'Université Côte d'Azur leads, coordinates and contributes to Inria software

development and experimentation activities, working with research 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.

Fed-BioMed is an open-source federated framework for multi-centric, hospital-based medical applications, originally developed in collaboration with Inria's EPIONE research team, which contributes to the development of the digital patient (e-patient) for digital medicine. Fed-BioMed is supported by Inria and brings together a community of clinical, academic and industrial partners fostering the adoption of collaborative learning in real-world medical applications. Fed-BioMed focuses on security, access and interoperability with sensitive health data, federated data preprocessing and harmonization, and lifecycle control by the data holder, enabling hospitals, biobanks, registries, clinical networks and industry partners to collaborate on research without sharing or moving the underlying data. The framework extends machine learning and data analyses to broader federated operations proposing functinalties such as access control, discovery, preprocessing, analytics, deep learning and .

Fed-BioMed is currently involved in EU Horizon and ANR projects. 1) TwinRISE is a Horizon Europe project building AI-powered digital twins for healthcare, particle accelerators and energy infrastructures, combining physics-based models with federated and generative AI. Bringing together 17 European partners with multidisciplinary expertise, it advances the state of the art in trustworthy AI and real-time simulation to deliver validated solutions with direct scientific and societal impact. Fed-BioMed is the technical backbone of TwinRISE's healthcare use cases.
2) FedOps aims to automate the extraction of clinical variables from medical documents of different types (for e.g. unstructured text reports, PDFs with text, scanned images, and ultimately DICOM files) in the context of lung cancer clinical research. The project seeks to build an LLM-based pipeline that assists ARCs by pre-filling structured clinical data, flagging uncertain predictions for human review, and ultimately exporting data in interoperability standards.

Assignment

As a confirmed/senior DevOps & Software Architecture Engineer, you will be the primary owner of the deployment, infrastructure and architecture of the Fed-BioMed open-source framework , a long with the answering development needs that are defined in the raodmap Fed-BioMed and the projects. You will be acting as the bridge between research ideas and production-ready systems - ensuring the platform can be reliably deployed, scaled and maintained across heterogeneous clinical, academic and industrial environments.

You will be integrated into Inria's SED R&D department as a member of the Fed-BioMed core technical team, working with an Agile methodology. Your involvement will be shared between the TwinRISE and FedOps projects, with 75% dedicated to TwinRISE and 25% to FedOps activities. You will serve as Inria’s lead technical expert and primary contributor, leading Fed-BioMed’s technical

contributions to these projects, and working in a multi-partner national and European R&D environment. The position is based at the campus Inria d'Université Côte d'Azur, in the heart of the Sophia Antipolis technology park, and includes occasional missions in Europe and France.

Your goals

- **Own the deployment infrastructure** of Fed-BioMed across development, staging and production environments, including hospital-based, cloud and multi-partner deployments.
- **Design and maintain CI/CD pipelines** to automate the testing, building and releasing of the framework.
- **Lead the design and implementation** of Fed-BioMed software extensions in general, and the ones required by TwinRISE in particular, including a cryptographically-signed secure audit layer and MLflow integration.
- **Translate technical and scientific requirements** from researchers and partners into concrete software architecture components and implementation blueprints.
- **Ensure Fed-BioMed is reliably deployed and integrated** and delivers the expected service level within TwinRISE.
- **Contribute to the general development and maintenance** of the Fed-BioMed core library and the life of the project.

Main activities

DevOps & Infrastructure

- Design, implement and maintain CI/CD pipelines (automated testing, builds, packaging, releases).
- Manage containerized deployments using Docker and orchestration tools (Kubernetes, Docker).
- Set up and maintain monitoring, logging and alerting for federated learning nodes including across TwinRISE partner sites.
- Manage infrastructure-as-code for reproducible and auditable environment provisioning.
- Ensure security best practices in deployment pipelines and runtime environments, including network isolation and access control for hospital-based nodes.
- Manage versioning, packaging and distribution of the Fed-BioMed framework (PyPI, conda, Docker Hub).
- Support and coordinate deployments with clinical, academic and industrial partners.

Architecture & Technical Design

- Define new functional requirements for Fed-BioMed to meet projects' needs.
- Gather technical requirements from researchers and projects' stakeholders.
- Translate research concepts and scientific proof-of-concepts into architecture components and implementation blueprints that also benefit the broader Fed-BioMed community.

- Design technical implementations that address TwinRISE, and FedOps requirements while maximizing their integration into the open-source framework.
- Define and document technical building blocks and architecture decision records (ADRs) for the development team.
- Review the overall system architecture to ensure scalability, maintainability and interoperability
- Contribute to technical roadmap discussions and sprint planning.

Development

- Develop software extensions for the projects that you're leading and maximize their integration into the open-source framework.
- Contribute to the core Fed-BioMed codebase.
- Review pull requests and contributions from team members and the community.
- Write and maintain documentation for infrastructure, deployment procedures and architecture decisions.

TwinRISE

- Lead and contribute to the deployment, integration and operation of the Fed-BioMed platform within TwinRISE.
- Train and support TwinRISE stakeholders in using the Fed-BioMed platform.
- Actively participate in TwinRISE proejcts’ meetings, events and transversal project activities.
- Collaborate with academic, clinical and industrial partners across TwinRISE consortium.
- Work closely with researchers to convert scientific proofs of concept into production-ready code.
- Support open-source Fed-BioMed community users with deployment and integration questions.
- Present the framework's architecture and infrastructure at workshops and summits.

FedOps

- Train and support FedOps users (researchers and PhD candidates) in using Fed-BioMed platform.
- Actively participate in the project's technical meetings and translate project requirements into Fed-BioMed extensions.
- Work closely with researchers and clinicians to transform scientific proofs of concept into production-ready code.
- Lead and develop the project's technical deliverables related to Fed-BioMed extensions.

Skills

Experience and training

- Strong background and experience in software engineering and/or DevOps.
- Experience designing and operating CI/CD pipelines in a software project (open-source experience is a plus).
- Experience in security for machine learning and/or computer networks.
- Knowledge in one or more of the following fields: Data Science / Statistics, Machine Learning, Artificial Intelligence, Federated Learning, Distributed Systems, Optimization.
- Experience working in a team, preferably using Agile methodology.
- Experience in an R&D environment and/or international project is appreciated.
- Experience contributing to an open-source project is a plus.
- Knowledge or experience in digital healthcare or other regulated environments is a plus.

DevOps & infrastructure skills

- Containerization: Docker (required), Kubernetes or Docker Swarm (appreciated).
- CI/CD tools: GitHub Actions, GitLab CI, or equivalent.
- Infrastructure-as-code: Ansible, Terraform, or equivalent.
- Monitoring & logging: MLfLow, Prometheus, Grafana, ELK stack, or equivalent.
- Experience in using and developing under HPC environments.
- Strong knowledge of Linux OS and system administration).
- Networking fundamentals: VPN, firewalls, TLS, mTLS, and authentication mechanisms.
- Security practices in software development (secure programming, secrets management, container hardening).

Architecture & development skills

- Programming languages: Python (required) and at least one other language.
- Ability to read scientific literature and translate concepts into technical specifications.
- Experience designing software architecture and producing architecture decision records.
- Basic to intermediate use of Machine Learning libraries (e.g. PyTorch, scikit-learn, TensorFlow, JAX).
- Data processing (e.g. numpy, pandas) and data pipelines.
- API services (RESTful, WebSockets, RPC) or message broker technologies (e.g. Kafka, MQTT).
- Version management: git, GitHub (required).
- Packaging and distribution: pip, conda, pdm, PyPI, Docker Hub.
- Database: SQL or NoSQL is appreciated.

Soft skills

- Good written and oral communication skills in technical and scientific English.
- Ability to work across teams (researchers, developers, clinicians, industrial partners).
- Autonomous, rigorous, and comfortable taking ownership in a fast-evolving R&D context.

What you will gain in this position

- Join a project with a positive impact on society, contributing to shape the future of healthcare.
- Work in the context of a European multi-partner Horizon Europe project.
- Work at the intersection of research and production engineering, alongside academic researchers and clinicians.
- Develop state-of-the-art skills in DevOps, software architecture and federated machine learning.
- Be a player in an open-minded, young, international and friendly team.

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 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 :** 2027-01-01
- **Duration of contract :** 2 years
- **Deadline to apply :** 2026-11-30

Contacts

- **Inria Team :** SED-SOP
- **Recruiter :**
  Cansiz Sergen / sergen.cansiz@inria.fr

About Inria

Inria, the French national institute for research in digital science and technology, supports the French government in national research and innovation strategies in the digital field, acting as Digital Programs Agency. Inria leads over 300 research and innovation projects with its 3,500 scientists, engineers, and support staff, in partnership with universities and the digital ecosystem (businesses, entrepreneurs, and public stakeholders). Together, we explore strategic fields such as artificial intelligence, cybersecurity, quantum computing, cloud technologies, digital transformation in healthcare, digital twins, and digital technologies for defence. We develop practical solutions such as software, tech startups, partnerships with national companies, and cutting-edge training programmes. Our goal is to drive scientific, technological, and industrial excellence to ensure France’s digital sovereignty.

The keys to success

This position is intended for a senior / confirmed engineer with a proven track record as a software developer and/or DevOps engineer (3 to 5 years of professional experience) and a strong attraction for R&D, European projects and digital healthcare. Candidates are expected to be able to work autonomously and take ownership of architecture and infrastructure decisions with limited supervision, this is not an entry-level or junior position.

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.