



Offre n°2021-03527

Developer on workflow management, integration and interoperability F/H

Le descriptif de l'offre ci-dessous est en Anglais

Type de contrat : CDD

Contrat renouvelable : Oui

Niveau de diplôme exigé : Bac + 5 ou équivalent

Fonction : Ingénieur scientifique contractuel

Niveau d'expérience souhaité : De 3 à 5 ans

A propos du centre ou de la direction fonctionnelle

The Inria Rennes - Bretagne Atlantique Centre is one of Inria's eight centres and has more than thirty research teams. The Inria Center is a major and recognized player in the field of digital sciences. It is at the heart of a rich R&D and innovation ecosystem: highly innovative PMEs, large industrial groups, competitiveness clusters, research and higher education players, laboratories of excellence, technological research institute, etc.

Contexte et atouts du poste

[France Life Imaging \(FLI\)](#) is a large-scale research infrastructure project aimed at establishing a coordinated and harmonized network of biomedical imaging in France. This project was selected by the call "investissements d'Avenir" as an "Infrastructure in Biology and Health". Its objective is a) to coordinate nationwide research activities concerned with in vivo imaging and combine the skills to push the current technological barriers, and b) to provide scientists a convenient access to a complete range of imaging technologies (150 imaging systems) and integrated services.

Within this infrastructure, the Node "Image Analysis and Management" (IAM) aims at building and operating an infrastructure to store, manage and process in vivo imaging data coming from human or pre-clinical procedures. One of the main bricks of this infrastructure, allowing to process the data, is the Virtual Imaging Platform (VIP), developed and deployed at the CREATIS laboratory. [VIP](#) is a web portal for the simulation and processing of massive data in medical imaging. By effectively leveraging the computing and storage resources of the EGI e-infrastructure, VIP offers its users high-level services enabling them to easily execute medical imaging applications. VIP has, in 2020, more than 1200 registered users and about 20 applications open to all its users. Sixty international publications have been produced by VIP users since 2011.

In the last few years, VIP has addressed interoperability and reproducibility concerns, in the larger scope of a FAIR (Findable, Accessible, Interoperable, Reusable) approach to scientific data analysis. Through [Boutiques](#), VIP is able to easily describe and integrate new applications, as well as publish them on open repositories, such as [Zenodo](#), to make them findable and accessible. Through [CARMIN](#), we also strive to ensure interoperability among platforms, such as VIP and the [Shanoir](#) data management platform. Nevertheless, further developments are needed at the workflow management level, allowing for a simpler and more standardized way of building, integrating and managing workflows in VIP.

In this context, the engineer will work on extending VIP with functionalities in line with the larger FLI-IAM objectives. The engineer will be hosted at the [CREATIS](#) lab. He or she will be under the supervision of the manager of the VIP platform and will interact with the other VIP engineers and the broader FLI community.

Mission confiée

Objectives of the position:

In close cooperation with the technical manager, the main objectives of the position are:

- **Interoperability and reproducibility**
 - Improve the workflow management system in VIP, allowing for an easier import of complex workflows and a better reproducibility of scientific results
 - Extend Boutiques support, enabling FAIR data analysis
 - Follow-up on CARMIN and interoperability with other computing and data platforms
 - Integrate BIDS support in VIP

- **Scientific algorithm challenge**
 - Import into VIP the pipelines provided by challengers and the metrics algorithms provided by organizers, based on Boutiques descriptors and Docker containers
 - Handle the data transfers between VIP and Shanoir
 - Handle the complete process of pipeline integration, execution and providing final results

Compétences

- High level education in computer science (university or grande-école), specialized on software development or distributed Internet architectures
- 2-3 years of software development experience with Java
- Experience with IntelliJ or other IDEs, GitHub, JBoss or Tomcat
- Experience with Linux operating systems and container technologies
- Knowledge of Workflow Management Systems
- Rigor, autonomy, technical curiosity, passion for new technologies and multidisciplinary work
- Good capability in technical and scientific English and oral practice
- Knowledge in the field of medical imaging and image processing would be a bonus

Avantages

- Subsidised catering service
- Partially-reimbursed public transport

Rémunération

Monthly gross salary from 2562 euros according to diploma and experience

Informations générales

- **Ville** : Lyon
- **Centre Inria** : [Centre Inria de l'Université de Rennes](#)
- **Date de prise de fonction souhaitée** : 2021-06-01
- **Durée de contrat** : 12 mois
- **Date limite pour postuler** : 2021-09-30

Contacts

- **Équipe Inria** : EMPENN
- **Recruteur** :
Kain Michael / michael.kain@inria.fr

A propos d'Inria

Inria est l'institut national de recherche dédié aux sciences et technologies du numérique. Il emploie 2600 personnes. Ses 215 équipes-projets agiles, en général communes avec des partenaires académiques, impliquent plus de 3900 scientifiques pour relever les défis du numérique, souvent à l'interface d'autres disciplines. L'institut fait appel à de nombreux talents dans plus d'une quarantaine de métiers différents. 900 personnels d'appui à la recherche et à l'innovation contribuent à faire émerger et grandir des projets scientifiques ou entrepreneuriaux qui impactent le monde. Inria travaille avec de nombreuses entreprises et a accompagné la création de plus de 200 start-up. L'institut s'efforce ainsi de répondre aux enjeux de la transformation numérique de la science, de la société et de l'économie.

Attention: Les candidatures doivent être déposées en ligne sur le site Inria. Le traitement des candidatures adressées par d'autres canaux n'est pas garanti.

Consignes pour postuler

Please submit online : your resume, cover letter and letters of recommendation eventually

Sécurité défense :

Ce poste est susceptible d'être affecté dans une zone à régime restrictif (ZRR), telle que définie dans le décret n°2011-1425 relatif à la protection du potentiel scientifique et technique de la nation (PPST). L'autorisation d'accès à une zone est délivrée par le chef d'établissement, après avis ministériel favorable, tel que défini dans l'arrêté du 03 juillet 2012, relatif à la PPST. Un avis ministériel défavorable pour un poste affecté dans une ZRR aurait pour conséquence l'annulation du recrutement.

Politique de recrutement :

Dans le cadre de sa politique diversité, tous les postes Inria sont accessibles aux personnes en situation de handicap.