



Offre n°2024-07368

Leading the OpenSwarm implementation

Type de contrat : Fixed-term contract

Niveau de diplôme exigé : Graduate degree or equivalent

Fonction : Temporary scientific engineer

Niveau d'expérience souhaité : From 3 to 5 years

Contexte et atouts du poste

Large, coordinated networks of small, resource-constrained devices have the potential to complete complex tasks that single monolithic devices cannot. We are designing an embedded computing platform that is low-cost and versatile. Each device can communicate using off-the-shelf radios in either time-synchronized channel-hopping mesh networks originally designed for reliable transmission in crowded IoT networks, or with BLE so that it be programmed from a cell phone or other Bluetooth-enabled device.

You will be contributing to the Horizon Europe OpenSwarm project. Its ambition is to trigger the next revolution in data-driven systems by developing true collaborative and distributed smart nodes, through groundbreaking R&I.

Mission confiée

The goal of this engineering position is to lead the OpenSwarm implementation. If you like embedded systems, this is the dream job for you.

There are two keywords which accurately define this position.

First, **impact**. The AIO team and the OpenSwarm project thrive to conducting research which matters. One vehicles for ensuring impact is standardization, in particular through the IETF LAKE working group which Malisa Vucinic co-chairs and which is a primary focus point of the OpenSwarm project. You will be able to participate in standardization activities, implementing proposed standards, attending IETF meetings, representing the team, organizing hackathons and other events.

Second, **leadership**. Of course you will be a contributor to the OpenSwarm code-base, but perhaps more importantly you will be putting in place the framework to allow all other OpenSwarm partners to contribute their code by defining the structure of the overall OpenSwarm implementation, contributing to the overall software architecture of the project, and ensuring the quality of the code produced. As such, you will be leading meetings, steering discussions and arbitrating between technological options.

Principales activités

You will be at the heart of the vibrant Inria-AIO team (<https://aio.inria.fr/>), and will be working hand-in-hand with several members of the team, including researchers Thomas Watteyne, Malisa Vucinic and Filip Maksimovic, but also research engineer Alexandre Abadie and PhD students Said Alvarado-Marin and Yuxuan Song.

You will have the following 3 main focus points:

- OpenSwarm architecture. You will lead the translation of the architecture into working code, by setting the standards and coordinating the contributions of all partners. This task will require both hard skills (CI/CD, advanced build systems, etc) and soft skills (running meetings, driving contributors, etc).
- Testbed software. You will be working with Alexandre Abadie to develop the software around the testbed to make it easy to use. This includes defining the UX/UI of the testbed, and implementing the necessary code to start and monitor experiments.
- Standardization. You will a main contributor to the IETF LAKE working group, maintaining the code base of the group's different implementations and attending IETF meetings.

Compétences

Excellent "hard" skills

- good understanding of software quality and project management tools (e.g. Git, GitHub, Travis-CI, Jenkins)

- "computer" programming skills (ideally Python), including some web development (understanding how browser and server communicate, JavaScript visualization)
- good embedded programming experience (understanding an electronic schematic, programming micro-controllers)

Excellent "soft" skills

- we are looking for the "technical leader" type, i.e. you are able to efficiently drive a team of engineers
- ideally, some open-source project experience, including source code and project management tools (Git, GitHub, GitHub Actions, etc)

Communication within the team happens in English. While speaking English is important, speaking French is not a requirement.

Avantages

- 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
- Flexible organization of working hours (after 12 months of employment)
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage

Informations générales

- **Thème/Domaine** : Networks and Telecommunications
System & Networks (BAP E)
- **Ville** : Paris
- **Centre Inria** : [Centre Inria de Paris](#)
- **Date de prise de fonction souhaitée** : 2024-10-01
- **Durée de contrat** : 1 year, 7 months
- **Date limite pour postuler** : 2024-06-21

Contacts

- **Équipe Inria** : [AIO](#)
- **Recruteur** :
Watteyne Thomas / thomas.watteyne@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.

L'essentiel pour réussir

We are looking for the "technical leader" type, who is able to lead a team of engineers, drive their work while making meaningful contributions and always ensuring the quality of the code being produced.

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

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.

