Offer #2021-03922

Research engineer to help develop the AmIUnique platform (M/F)

Contract type : Fixed-term contract

Level of qualifications required : Graduate degree or equivalent

Fonction : Temporary scientific engineer

About the research centre or Inria department

The Inria Lille - Nord Europe Research Centre was founded in 2008 and employs a staff of 320, including 280 scientists working in fourteen research teams. Recognised for its outstanding contribution to the socio-economic development of the Hauts-De-France région, the Inria Lille - Nord Europe Research Centre undertakes research in the field of computer science in collaboration with a range of academic, institutional and industrial partners.

 The strategy of the Centre is to develop an internationally renowned centre of excellence with a significant impact on the City of Lille and its surrounding area. It works to achieve this by pursuing a range of ambitious research projects in such fields of computer science as the intelligence of data and adaptive software systems. Building on the synergies between research and industry, Inria is a major contributor to skills and technology transfer in the field of computer science.

Context

Spirals conducts research activities in the fields of distributed systems and software science. We aim to introduce more autonomy into the adaptation mechanisms of software systems, in particular, to ensure the transition from adaptive to self-adaptive systems. In particular, we aim at two properties: self-healing and self-optimisation. With self-healing, we aim to study and adapt data mining and learning solutions to the design and implementation of software systems, in particular with a view to the automatic repair of software systems. With self-optimisation, we aim to share, collect and analyse behaviour in a distributed environment in order to continuously adapt, optimise and keep software systems running, and to move towards achieving eternal distributed systems.

Our team is looking for a research engineer for the duration of 2 years.

You will work in the Spirals team which is a joint project-team between Inria and the University of Lille within UMR 9189 CRIStAL. Spirals is conducting research activities in the domains of distributed systems and software engineering. In the context of this project, you will work with the other researchers, PhD students and engineers working on the topics of web security and privacy. Our goal here is to better understand what is happening on the web to imagine and design solutions that can better protect users online.

Assignment

Browser fingerprinting has emerged in the past decade as a means to track users on the Internet. By collecting a set of attributes via a simple script in a browser, a server can uniquely identify users without relying on a stateful identifier like a cookie. In order to properly understand this technique and how much harm it can cause to privacy, the AmIUnique website (https://amiunique.org) was created to collect data from genuine devices. Since its launch, the website has contributed to a number of scientific publications and will continue to do so by fueling our research for the years to come. The SPIRALS team in Lille is recruiting an engineer to help grow the AmIUnique platform by expanding its capabilities and providing features that will help our ongoing and future collaborations.

Main activities

The engineer will be helped throughout these two years by the SPIRALS team to fullfill the following main objectives:

· Develop, integrate and maintain an AmIUnique mobile application on both Android and iOS to understand the evolution of mobile fingerprints over time;

· Develop and maintain the FingerKit platform to understand how best to use fingerprinting for authentication with an ongoing collaboration with Inria's DSI to continue integration into the CAS authentication mechanism;

· Develop and maintain the AmIUnique platform to support our future research endeavors in the area of browser fingerprinting with new features aimed at opening our platform to external researchers.

Skills

The engineer is expected to have some experience with modern web technologies:

· Required skills: experience in software development (including Git, test frameworks, continuous integration, Docker containers), basics of modern web technologies (HTML, JavaScript, CSS, JQuery), Linux server administration (web servers, databases and scripting),

· Additional skills: experience with large-scale data management and data mining tools. Experience in the development of browser extensions (Chrome and/or Firefox). Experience in the development of mobile applications (Android and/or iOS).

Benefits package

You will integrate a dynamic team composed of international scientific experts in the domain of software engineering and web security (https://team.inria.fr/spirals/) .

You will work on emerging research topics with international partners recognized in the field of cybersecurity.

You will work in a stimulating and engaging work environment (reimbursement of transportation to the lab (50%); on-site catering ; remote work ; paid leave; video equipment...)

You can benefit from free technical and more general on-site training.

Outside of the development of your technical expertise, Inria offers you the opportunity to develop your entrepreneurship skills by participating in training on how to create a startup.

For international candidates, our administrative services helps you in many different administrative tasks (visa, residence permit, social security, accommodations, bank...).

Remuneration

Remuneration according to profile (public service grid)

General Information

- **Theme/Domain :** Security and Confidentiality
  Web development (BAP E)
- **Town/city :** Villeneuve d'Ascq
- **Inria Center :** Centre Inria de l'Université de Lille
- **Starting date :** 2021-11-01
- **Duration of contract :** 2 years
- **Deadline to apply :** 2021-09-30

Contacts

- **Inria Team :** SPIRALS
- **Recruiter :**
  Laperdrix Pierre / pierre.laperdrix@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.

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

CV and application letter

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.