



**Offre n°2022-05106**

## **Scientific Engineer on Network Security Automation in beyond 5G networks**

*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

### **Contexte et atouts du poste**

The offered position is proposed by the RESIST team of the Inria Nancy Grand Est research lab, the French national public institute dedicated to research in digital Science and technology. The team is one of the European research group in network management and is particularly focused on empowering scalability and security of networked systems through a strong coupling between monitoring, analytics and network orchestration.

<https://team.inria.fr/resist/>

This work is in the context of the H2020 AI@EDGE project (A Secure and Reusable Artificial Intelligence Platform for Edge Computing in Beyond 5G Networks starts in January, 2020) involving partners all around Europe.

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### **Mission confiée**

This work is in the context of the H2020 AI@EDGE project (A Secure and Reusable Artificial Intelligence Platform for Edge Computing in Beyond 5G Networks starts in January, 2020) involving partners all around Europe. This project will bring different use cases for testing solutions. It will define a framework and techniques to empower the automation of network security assuming a highly dynamic environment, in particular Mobile-Edge Computing infrastructure and 5G. In such an environment, resources are virtualized and shared among users with an underlying high volatility and changes in resource allocations and needs.

In this project, the main contributions of the RESIST team is to automate security mitigation techniques using reinforcement learning and automatically generate datasets for evaluating AI algorithms in different configurations.

The engineer will be integrated in the RESIST research team to support the realization of the highlighted contributions including support for research with the development of tools and software, identification and tests of AI algorithms, project documentation and task management.

### **Principales activités**

The engineer will be integrated in the RESIST research team to support the realization of the project objectives including the following tasks:

- The identification of components to support automation of AI-based services and dataset generation in the overall project architecture,
- Support the development and integration of the automation solutions which is the main topic of a PhD

student working in this project,

- Actively participate to the research work regarding automated dataset generation and the development of related tools. The automated generation will be based on initial datasets to be augmented using AI techniques,
- Integration and validation of our developed tools in project use cases
- Participate to standardization activities by presenting our work in different fora
- Project management: the engineer will be fully involved in the project management duties including writing, reviewing and editing of deliverables of the project; participating to the project meetings, including physical meetings being held in different countries of Europe and review meetings; management of tasks and a workpackage involving multiple partners.

## Compétences

- Required qualification: Diplôme d'ingénieur, Master degree in Computer Science or Computer engineering
- Required knowledge: networking, network security
- Languages: Shell, python and others are appreciated
- Software development: continuous integration and collaborative development using gitlab, knowledge in virtualisation technologies (Docker, Kubernetes)
- Knowledge in machine learning and data mining
- Fluent in english (writing and oral communication)
- Comfortable with leading meetings, webconferences, project management

## 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 (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
- Social security coverage

## Rémunération

Gross salary : from 2 562 euros before deduction of tax incomes depending on laboral experiences and degrees.

## Informations générales

- **Thème/Domaine** : Réseaux et télécommunications  
Système & réseaux (BAP E)
- **Ville** : Villers lès Nancy
- **Centre Inria** : [Centre Inria de l'Université de Lorraine](#)
- **Date de prise de fonction souhaitée** : 2022-09-01
- **Durée de contrat** : 1 an, 2 mois
- **Date limite pour postuler** : 2022-07-17

## Contacts

- **Équipe Inria** : [RESIST](#)
- **Recruteur** :  
François Jerome / [jerome.francois@inria.fr](mailto:jerome.francois@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

Applications are to be sent as soon as possible.

Starting date: September 2022

Renewable contract

How to apply:

Upload your file on [jobs.inria.fr](http://jobs.inria.fr) in a single pdf or zip file, and send it as well by email to [jerome.francois@inria.fr](mailto:jerome.francois@inria.fr) and [abdelkader.lahmadi@loria.fr](mailto:abdelkader.lahmadi@loria.fr). Your file should contain the following documents:

- Your CV.
- A cover/motivation letter describing your interest
- Your degree certificates and transcripts for Bachelor and Master (or the last 5 years).

In addition, one recommendation letter from the person who supervises(d) your work should be sent directly by his/her author to [jerome.francois@inria.fr](mailto:jerome.francois@inria.fr) and [abdelkader.lahmadi@loria.fr](mailto:abdelkader.lahmadi@loria.fr)

**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.