2018-00726 - Ingénieur scientifique contractuel / Cybersécurité

Contract type : Public service fixed-term contract
Level of qualifications required: Graduate degree or equivalent
Fonction : Temporary scientific engineer
Level of experience: Recently graduated

About the research centre or Inria department

Inria, the French National Institute for computer science and applied mathematics, promotes "scientific excellence for technology transfer and society". Graduates from the world's top universities, Inria's 2,700 employees rise to the challenges of digital sciences. With its open, agile model, Inria is able to explore original approaches with its partners in industry and academia and provide an efficient response to the multidisciplinary and application challenges of the digital transformation. Inria is the source of many innovations that add value and create jobs.

Context

As a part of an ongoing effort of transforming its research in Android malware analysis into software products, the CIDRE research team is hiring a research engineer to develop, maintain and integrate the software components that make up the Kharon Android malware analysis platform. These components are (Andro)Blare, an information flow monitor for the Android kernel, GroddDroid, a static and dynamic code analyzer, and GroddViewer a malicious code explorer.

Assignment

Assignments: Within a team of researchers, engineers and PhD candidates, the hired engineer will develop and integrate in the kharon platform the newly developed software components produced by researchers and PhD candidates. This includes porting to the newer Android kernels a pre-existing kernel security patch and improving the analyses' quality, visualization, and performances.

For more information on the subject matter, a state of the art review, bibliography, scientific references and analysis results are available at http://kharon.gforge.inria.fr/

Main activities

Main activities

- Develop software in C (kernel code), Python, Java, Javascript
- Develop and port a kernel security patch to newer android kernels
- Make evolve a source code by making decisions about the integration of frameworks
- Write the specifications for the analysis platform
- Test for the written code
- Write adequate documentation
- Coordinate the development effort between the actors (industrials, academics)

Additional activities:

- Present the works' progress to the community
- Train the platforms' users

Skills

Technical skills and level required:

- High expertise in languages C, Python, Java, Javascript
- Knowledge and skills for discovering development frameworks (AngularJS, NodeJS, Soot, etc.)
- Knowledge of the Android or Linux kernel
- Experiences in low level development (kernel modules, libraries, virtual machines)
- Good expertise with foundations of computer security (e.g. buffer overflow, ROP, obfuscation, etc.)
- Knowledge of web development and skills in discovering new frameworks (e.g. bootstrap)
- Expertise with development tools (versionning, unit and integration testing, deployment tools)
- Minimal skills in administrating a Linux server
- Experiences with Agile development

Human skills:

- Be close to the needs of client's needs
- Be adaptive
- Know how to choose the best technical solution
- Know how to handle a project and be in time
- Fluent english writting

Benefits package

- Subsidised catering service
- Partially-reimbursed public transport
- Social security

General Information

- Theme/Domain: Security and Confidentiality
- Software Experimental platforms (BAP E)
- Town/city: Rennes
- Inria Center: CRI Rennes - Bretagne Atlantique
- Starting date: 2018-09-03
- Duration of contract: 2 years
- Deadline to apply: 2018-06-30

Contacts

- Inria Team: CIDRE
- Recruiter: Viet Triem Tong Valérie
- valerie.viet_triem_tong@inria.fr

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The keys to success

We look for a curious and motivated engineer; even if he is not familiar at the beginning with all technical environments that he will meet during its contract. In collaboration with various people, researchers, students, companies, the candidate should animate and coordinate the development activities.

Conditions for application

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

For further information, please contact: valerie.viet_triem_tong@centralesupelec.fr

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). Authorization to enter an area is granted by the director of the unit, following a favourable 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.

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.
- Paid leave
- Flexible working hours
- Sports facilities

**Remuneration**

Monthly gross salary: from 2562 euros (depend on the experiences and diploma)