

Controlled Cyber Security Threat Information Sharing

Opportunity for a 6-month internship

Security Research @ SAP Labs France
Sophia-Antipolis – France

SAP's security vision is built on 5 ideals to secure business: Defendable Application, Zero-Knowledge, Zero-Vulnerability, Security by Default, and Transparency.

SAP's security research group lays the foundation for realising the vision: The 30+ researchers of the Security Research unit focus on security engineering (e.g., the automation of the secure software development lifecycle), secure business execution (e.g., business process security and security in cloud based business applications) and secure operations (e.g., secure maintenance and support of complex and heterogeneous cloud IT landscapes).

Security Research proposes a 6-month internship in its Sophia-Antipolis offices (Mougins, France).

INTERNSHIP TOPIC

Contrast to cyber-attacks requires collaboration among targets, ISPs, CERTs and so on. Therefore, cyber threat information (CTI) are precious insights that permit to share knowledge on the different menaces (botnets, malware etc). Such information is not generally shared in public, due to the high sensitivity of these data, however their public disclosure would help the research community to study new countermeasures and to allow cyber response improvements. SAP is focusing on solutions that allow companies to share their CTI for big data analysis, at the same time lowering the data sensitivity but using advanced access control techniques and data anonymization.

The internship focusses on the development of access and usage control solutions applied to the Hadoop software family, big data architecture and on their interplay with CTI-related standards. The activities are part of a collaborative innovation project funded by the European Commission, C3ISP, in cooperation with major academic and industrial organizations.

In the above-described context, the specific goals of the internship are as follows:

- Extend an existing usage control solution for its interaction with selected Big Data solutions
- Deploy and experiment within the C3ISP big data platform
- Design integration strategies for access and usage control directives in Big Data and with CTI standards.
- Collaborate with cyber security teams.

Technologies/techniques involved are: Java, JavaScript, GIT, Maven, and Machine Learning

We expect that 30% of time will be dedicated to research activities, and 70% to development

CANDIDATE PROFILE

- University Level: Last year of MSc or less if the student has a good profile
- Good knowledge of the Java programming language
- Good knowledge of versioning control systems like GIT or SVN
- Good knowledge of HTML5 technologies (JS, CSS, AJAX)
- Good knowledge of data science and machine learning algorithms
- Interest in research work
- Fluency in English (working language)
- Good oral and written communication skills

INTERNSHIP CONTEXT

SAP

Over the past 45 years, SAP has grown to become the world's leading provider of business software solutions. With 12 million users, 96,400 installations, and more than 1,500 partners, SAP is the world's largest inter-enterprise software company and the world's third-largest independent software supplier, overall. SAP solutions help enterprises of all sizes around the world to improve customer relationships, enhance partner collaboration and create efficiencies across their supply chains and business operations. SAP group includes subsidiaries in over 180 countries and employs more than 84 000 people.

Security Research at SAP Labs France, Sophia Antipolis

Based at SAP Labs France Mougins, Security Research Sophia-Antipolis addresses the upcoming security needs, focusing on increased automation of the security life cycle and on providing innovative solutions for the security challenges in networked businesses, including cloud, services and mobile.

STANDARD INTERNSHIP PACKAGE

- *Salary*: depending on the length of the internship and your diploma.
- *Lunch*: SAP Labs France has a local cafeteria; interns contribute 2,40 €uro/lunch, like other SAP employees.
- *Holidays*: French Bank Holidays
 - January 1st; April 2nd, May 1st, May 8th, May 10th, May 21st, July 14th; August 15th, Nov 1st and 11th; December 25th
- *Travel*: no trip will be paid by SAP.
- *Accommodation*: SAP can propose an accommodation for the duration of your internship. The accommodation is subsidized by SAP: the intern pays half of the rental cost: 342€ for a 1-room apartment or 442€ for a 2-room apartment (Choice depending on the availability).

CONTACTS AND PROCEDURE

Please send **in English** your CV, a cover letter and any relevant documents to the following persons stating the title of the Internship in the subject: [Internship Application] **Controlled Cyber Security Threat Information Sharing**

Supervisor

Francesco Di Cerbo
francesco.di.cerbo@sap.com

Administrative point of contact

Sylvine Eusebi
sylvine.eusebi@sap.com
Tel. +33-(0)4-92286477