

Machine learning based Dark Web Crawler

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

This internship is based in the SAP Labs France Research Lab, in Sophia-Antipolis. The work will be performed in the SAP Product Security Research team, and deals with security configuration settings, thus application or system configuration which is relevant for security, and which enforces more abstract, high-level security requirements and obligations.

In this internship, the student will work on a prototype that automatically monitors server's sources from the Dark Web to identify on real time the new Cyber Security threats targeting companies. In order to identify and classify the collected data, we rely on an advanced supervised machine learning system.

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

- Develop several web crawlers that will capture online data
- Create script based filters in order to process the collected data
- Train a machine learning system to recognize specific content
- Develop user friendly UI

Technologies/techniques involved are: Python, MangoDB, NodeJS, Java, JavaScript, and Machine Learning libraries

We expect that 40% of time will be dedicated to research activities, and 60% to development

CANDIDATE PROFILE

- University Level: Last year of MSc in Computer Science or beyond
- Experience in Java (expert)
- Security Knowledge
- Javascript, JSON expert
- Python development skills
- Good web developer: HTML5, UI5, XS JS
- Database Management experience
- Fluency in English (working language)
- Abilities in organizing meeting and contacting people
- Good oral and written communication skills
- Capacity to write documents in English, ability to synthesize

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] **Machine learning based Dark Web Crawler**.

Supervisor

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Administrative point of contact

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