

Bertrand STIVALET

Security Engineer



French - 27 years old
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PROFESSIONAL EXPERIENCE

National Institute of Standards and Technology (NIST) Washington, DC, USA

2013 - 2016
3 years

Security Engineer

+ Static Analysis Tool Exposition – samate.nist.gov/SATE.html

Studied how source code security analyzers react facing a large range and diverse known vulnerabilities in C/C++, JAVA and PHP. Created data set. Operated security tools. Analyzed reports. Computed metrics (precision, recall, coverage, overlap). Wrote guidance and reports. Worked with international private companies.

+ Vulnerability Test Suite generators – github.com/stivalet/

Designed, Led and Managed the project from the beginning to the end. It generates ~50,000 test cases based on the OWASP Top 10 in PHP and C#. Tool vendors and researchers are already using the tool. Supervised 4 people.

+ Gave work presentations at NIST and external conferences (see *Publications* section).

2011 - 2013
1.5 years

C/C++ Developer

+ Hybrid CPU-GPU program for the Fourier-based image stitching

Developed a pipelined multi-threaded implementation of the Fourier-based image stitching of optical microscopy images: 7.7x speedup. Performed positive and negative testing during the implementation process.

May 2011
6 months

Obj-C Developer

+ Electronic Biometric Transmission Specification (EBTS) library

Developed an iOS library following the EBTS standard. It has been integrated into two FBI's projects: the Repository for Individuals of Special Concern project and the Fingerprints Comparison System project. Suggested improvement ideas for the standard.



PERSONAL PROJECTS

2016

Pentesting Tutorials

+ Topics: Physical pentesting, Wireless pentesting, Vulnerability Assessment, Exploit development

Translating EN -> FR videos' subtitles for Cybrary.it

Self-studying to pass the C|EH and Security+ certifications

2015

The 'A Bug A Week' Challenge – abugaweek.com

+ Educative initiative to promote secure coding. Every week a flawed source code is published. The goal is to identify the threat and document it. The following week, the answer is published with the explanation and how to remediate it.

+ Designed, Planned, Coordinated and Implemented the challenge and the website.

Volunteered for BSides Security Conferences in the Washington DC area



SKILLS

General skills

- + Security code reviews
- + Skilled in finding and identifying vulnerabilities
- + Threat modeling and risk assessment
- + Ability to learn and apply new technologies effectively
- + Responsive, organized and excellent problem solver

Technical skills

- + Static / Dynamic Application Security Testing
- + IT Security: Vulnerability Assessment, Sniffing, Pentesting, Fuzzing, Password cracking
- + Tools: Nmap, Nessus, Skipfish, John, Snort
- + Languages: Python, C/C++, JAVA, PHP, Obj-C
- + Network: TCP/IP, HTTP, DNS, OSI Model
- + Network security: IPSec, SSL, VPN, SSH
- + Vulnerability: NVD, CVE, CWE
- + Windows/Linux/MacOs



PUBLICATIONS

SATE V Report

- + Aurelien Delaitre, Bertrand Stivalet, Vadim Okun, Paul E. Black
- + NIST Special Publication

Large Scale Generation of Complex and Faulty PHP Test Cases April 2016

- + Bertrand Stivalet, Elizabeth Fong
- + IEEE International Conference on Software Testing, Verification and Validation (ICST'16), Chicago, IL, USA
- + Select as the BEST PAPER for the ICST16 Tool Demo Track

Evaluating Bug Finders - Test and Measurement of Static Code Analyzers May 2015

- + Aurelien Delaitre, Bertrand Stivalet, Elizabeth Fong, Vadim Okun
- + IEEE Complex faULTs and Failures in Large Software Systems (COUFLESS'15), Firenze, ITALY

CVE-selected Analysis Results Mars 2014

- + Bertrand Stivalet
- + SATE V Workshop, Gaithersburg, MD, USA



EDUCATION

2008 - 2011

TELECOM Nancy, University of Lorraine, FR

- + Master's degree in Computer Science with a major in Network & Security
- + Cisco CCNA 1, CCNA 2, CCNA 3
- + Test of English for International Communication (TOEIC)

2006 - 2008

IUT Nancy-Brabois, University of Lorraine, FR

- + Bachelor of Science with a major in Automated Systems and Industrial Networks



FOREIGN LANGUAGES

French ●●●●●

English ●●●●○



HOBBIES & INTERESTS

Traveling – Different cultures

Running (Marathon: 3h46)

DIY Hacking projects

References: available upon request