

FLORIAN STOSSE

INFORMATION SECURITY ENGINEER

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EDUCATION

M.Sc. in Computer Science – ESIEA, Paris

August 2018

Major in *Information Security*, minor in *embedded systems*.

Graduated *summa cum laude*, with *jury honors*.

Master thesis : « Autonomous vehicles security »

State of the art study of vehicles security, specific risk analysis focused on autonomous functions threats, and development of a dedicated security evaluation methodology.

Associate's degree – University of Lorraine, Metz

July 2014

Major in *Computer Science*.

Internship subject : « Multi-sensors ad-hoc network use to improve indoor positioning of mobile users »

Embedded system (*LEGO Mindstorms EV3*) programming in Java (Lejos framework). The goal was to build and program the robot to navigate inside a previously unknown room, in order to map its Wi-Fi and Bluetooth coverage.

WORK EXPERIENCES

ANSSI – National Cybersecurity Agency of France

October 2018 – March 2019

Software security expert / PhD student

Paris, France

Study of formal methods and countermeasures applicable for secure execution on vulnerable hardware platforms (e.g. Spectre & Meltdown vulnerabilities) :

- ◊ State of the art of existing countermeasures (LFENCE, Speculative Load Hardening, ...)
- ◊ Impacts study : generated code size, performances overhead, residual risk, ...
- ◊ Proof-of-Concept of a detection and remediation plug-in using static analysis for the Frama-C platform : Spectre v1 vulnerables branches detection and automatic insertion of countermeasures
- ◊ Literature monitoring on software and side channels security.

Bureau Veritas – RAMS department

September 2015 – September 2018

Computer security engineer (apprenticeship)

Paris, La Défense

While working in the RAMS department of our European Technical Center (R&D center), I took part to various security-related activities :

- ◊ Cybersecurity and safety common process design for automotive manufacturer (*SAE J3061*)
- ◊ Industrial systems cybersecurity certification (*IEC 62443* standard, level SL1)
- ◊ Risk analysis and security assessment of IoT products and architectures (*EBIOS* methodology)
- ◊ Sound static analysis of critical embedded software (*Frama-C* platform)
- ◊ Principal writer of several technical guidelines on vehicles security and software security
- ◊ Bureau Veritas' representative at ISO 21434 (« Automotive Cybersecurity Engineering ») Joint Working Group (and France mirror group member)

PUBLICATIONS

Conference publications

- ◇ Florian STOSSE et al. “Les enjeux de la cyber sécurité dans le domaine des véhicules connectés”. In : *Congrès LambdaMu 20* (2016)
- ◇ Florian STOSSE et Franck SADMI. “Intégrer les enjeux de la cybersécurité aux démarches existantes de sécurité fonctionnelle dans le domaine des véhicules connectés”. In : *Conférence ISA France, cyber-sécurité et sécurité fonctionnelle* (2016)
- ◇ Olivier D’HÉNIN et al. “Guidelines for secure software development”. In : *Congrès LambdaMu 21* (2018)

Technical guidelines

- ◇ BV-CARCYBERSEC-001 : Cybersecurity of connected vehicles – Best practices
- ◇ BV-SW-200 : Cybersecurity Guidelines for Software Development & Assessment

General press

- ◇ Interview : what’s next for connected vehicles security ? (Sentryo’s blog)

SKILLS

Operating systems	Windows hardening (Secure Boot, virtualization-based security, BitLocker), GNU/Linux Debian & Ubuntu
Standards	RGS, ANSSI guidelines, IEC 62443, SAE J3061, ISO 21434, NIST SP800-82, ISO 17961
Risk analysis	EBIOS, Microsoft STRIDE
Code analysis (sound)	Frama-C
Code analysis (quality)	Checkmarx, SonarQube, CppCheck, RATS, Clang-Analyzer
Fuzzing	ClusterFuzz, libFuzzer
Vulnerability analysis	OpenVAS, Nessus
Firewalls	Stormshield, pfSense
Networks	Nginx web server, Squid proxy, Unbound & nsd DNS servers
Programming	C, OCaml, Java, VHDL, Python, Bash, L ^A T _E X

CERTIFICATIONS

- ◇ ANSSI SecNumEdu, 2018. Certificate number EE402EDEEAA7.
- ◇ Stormshield CSNA (Certified Stormshield Network Administrator), 2017 – 2020. Result : **84%**
- ◇ TOEIC Listening and Reading, 2017. Result : **990/990**
- ◇ Advanced English Language Course, Wrexham Glyndwr University (Wales), 2017.

PROJECTS

- ◇ **DEFNET 2016** : took part in the 2016 edition of DEFNET, a nation-scale incident response exercise, with the ESIEA team.
- ◇ **ESIEA Secure Edition 2016** : staff member of the ESE 2016 conference, dedicated to information security.

MISCELLANEOUS

- ◇ English : complete professional & technical fluency
- ◇ French : mother tongue
- ◇ Member of the Cyberdefense committee at Les Jeunes IHEDN¹

1. *Institut des Hautes Études de la Défense Nationale (Institute for Higher National Defence Studies)*