

Sebastian Österlund

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Education

PhD, *VU*, Amsterdam, *PhD*. 2017-
Research in systems security with the topic *memory safety* at VUsec.
PDCS, *VU*, Amsterdam, *M.Sc.* 2015-2017
Parallel and Distributed Computer Systems. Cum Laude
Computer Science, *VU*, Amsterdam, *B.Sc.* 2012-2015
Cum Laude, Minor Deep Programming
High School, *Katedralskolan*, Åbo, studentexamen. 2009-2012

Publications

Intel Trust Domain Extension Guest Linux Kernel Hardening Strategy: Reshetova E.; Lengyel T.; Österlund S.; Schulz S., May 2022

CollabFuzz: A Framework for Collaborative Fuzzing: Österlund, S.; Geretto, E.; Jemmett, A.; Güler, E.; Görz, P.; Holz, T.; Giuffrida, C.; and Bos, H. In EuroSec, April 2021

Who's Debugging the Debuggers? Exposing Debug Information Bugs in Optimized Binaries: Di Luna, Giuseppe Antonio; Italiano, D.; Massarelli, L.; Österlund, S.; Giuffrida, C.; and Querzoni, L. In ASPLOS, April 2021, Distinguished Paper Award

Cupid: Automatic Fuzzer Selection for Collaborative Fuzzing: Güler, E.; Görz, P.; Geretto, E.; Jemmett, A.; Österlund, S.; Bos, H.; Giuffrida, C.; and Holz, T. In ACSAC, December 2020

ParmeSan: Sanitizer-guided Greybox Fuzzing: Österlund, S.; Razavi, K.; Bos, H.; and Giuffrida, C. In USENIX Security, August 2020

RIDL: Rogue In-Flight Data Load: van Schaik S.; Millburn, A.; Österlund, S.; Frigo, P.; Maisuradze, G.; Razavi, K.; Bos, H. J.; Giuffrida, C., C. In IEEE Symposium on Security and Privacy, May 2019.

kMVX: Detecting Kernel Information Leaks with Multi-variant Execution: Österlund, S.; Koning, K.; Olivier, P.; Barbalace, A.; Bos, H.; and Giuffrida, C. In ASPLOS, April 2019.

Master Thesis: *Detecting information leaks using kernel-level multi-variant execution*. Supervised by H. Bos, C. Giuffrida

Bachelor Thesis: *Strengthening diversification defenses by means of a non-readable code segment*. Supervised by H. Bos, C. Giuffrida

Talks

Intel DTTC 2022, Virtual: TDX guest kernel hardening & fuzzing

Infosecurity 2020, Copenhagen, Denmark: Keynote speaker, CPU

hack: stealing your in-flight secrets

NLUUG Najaarsconferentie 2019, Utrecht: RIDL: Rogue In-Flight Data Load

InfoSecurity.nl Jaarbeurs, Utrecht: RIDL: Rogue In-Flight Data Load

HITB CyberWeek 2019, Abu Dhabi: RIDL: Rogue In-Flight Data Load

Offzone 2019, Moscow: RIDL: Rogue In-Flight Data Load

CySep 2019, Stockholm: kMVX: Detecting Kernel Information Leaks with Multi-variant Execution

Cisco internal talk, Knoxville, TN: kMVX: Detecting Kernel Information Leaks with Multi-variant Execution and RIDL: Rogue In-Flight Data Load

Other

Analysis of dutch election software, 2018: Interview on RTL about the numerous vulnerabilities we found in dutch election software

NPO1 radio interview, 2019: Interview on CPU vulnerabilities on Dutch National Radio

Awards

ASPLOS Distinguished Paper Award, 2021: for Who's Debugging the Debuggers? Exposing Debug Information Bugs in Optimized Binaries

Dutch Cybersecurity Research Award (DCSRP), 2020: for RIDL: Rogue In-flight Data Load

Experience

Vocational

Offensive Security Researcher, *Intel*, Remote. **2022–**
Security research at Intel STORM/ SPEAR.

Security Research Intern, *Intel*, Remote. **2021–2022**
Security research intern working on TDX Guest Kernel fuzzing and validation.

Lecturer, *VU*, Amsterdam. **2017–**
Lecturer for course Project Application Development/ Computer Programming Practical.

Teaching Assistant, *VU*, Amsterdam. **2013–2015**
Teaching assistant for the Department of Computer Science.
Courses:

- Programming (JAVA), Pervasive Computing, Web Technology, Computer Systems, Project Application Development, Databases, Algorithm Engineering

Technology consultant, *Digne Consult*, Laren. **2012–2012**
Development of online coaching application.

Technology consultant, *Digne Consult Asia*, Singapore. **2012–2012**
Development of online coaching application.

Miscellaneous

PR committee CS department, *Vrije Universiteit*, Amsterdam, NL. 2017–

Curriculum committee member, *Vrije Universiteit*, Amsterdam, NL. 2015–2017

Volunteer, *Barker Theatre*, Turku, Finland. 2010–2012
Technical support

Board Treasurer, *MR Danceworks r. f.*, Turku, Finland. 2012–
A non-profit organization for modern dance.

Skills

Languages

Swedish: Native speaker

Dutch: Native speaker

English: Fluent

Finnish: Intermediate

Tech

Programming: C, Rust, Python

LLVM: compiler passes/ tools

Fuzzing: AFL++ contributor

Linux Kernel:

References

Academic

- H.J. Bos, prof. dr. ir.
(herbertb@cs.vu.nl)
- C. Giuffrida, dr.
(c.giuffrida@vu.nl)
- S. Voulgaris, dr.
(spyros@cs.vu.nl)