



2023-12-21

Curriculum Vitae: Federico (ceres-c) Cerutti

Computer Security graduate student at VU Amsterdam. Experience in reverse engineering (Android, Linux, embedded), reverse engineering tools development, NFC, hardware security.

1 Personal Information

Personal Details

Name Federico
Surname Cerutti
Date of Birth 1997-08-16
Nationality Italian
Website <https://ceres-c.it>
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Languages

Italian Native
English Proficient (C2)

Education

- **Master's in Computer Security** *2022-09 - ongoing*
Vrije Universiteit Amsterdam
ECTS: 120 ~ /10
- **Bachelor in Computer Engineering** *2016-09 - 2021-09*
Università degli Studi di Brescia
ECTS: 180 96/110

Employment Background

- **Teaching Assistant** *2022 - 2023*
Vrije Universiteit Amsterdam
Helped undergraduate students with practical assignments and graded exams for the courses:
 - Operating Systems
 - Computer Organization
- **Expert witness** *2020*
Jacobacci & Partners
Reverse-engineered an electronic billing system to provide technical advisory for a legal case

2 Research

2.1 Theses

1. *Design and implementation of Bulldozer - A decompiler for JavaScript "binaries"* *08-09-2021*
Bachelor's Thesis. Supervisor: Prof. [Francesco Gringoli](#) (Università degli Studi di Brescia)
Thesis: <https://github.com/ceres-c/bulldozer/blob/master/thesis.pdf>

2.2 Publications

1. *Looking for Criminal Intent in JavaScript Obfuscated Code* *2022*
[F. Cerutti](#), [D. B. di San Pietro](#), [F. Gringoli](#), and [G. Lamperti](#), *Procedia Computer Science*, vol. 207. Elsevier BV, pp. 867–876, 2022. doi: [10.1016/j.procs.2022.09.142](https://doi.org/10.1016/j.procs.2022.09.142)

2.3 Presentations, Conferences and Seminars

1. *Hacking an NFC toy with the ChameleonMini* 2019
Lightning talk at 36C3 on hacking an NFC toy (English)
[F. Cerutti](#), [F. Peters](#) - Recording: [media.ccc.de](#)
2. *NFC & RFID In The Wild* 2019
Introductory talk on NFC at MuHackademy 2019 (Italian)
[F. Cerutti](#), [G. Cammisa](#) - Recording: [YouTube](#)
3. *Hacking NFC in Murcia* 2018
Presented a Seminar on hacking the NFC devices used in the town of Murcia at the Department of Information Engineering and Communications.
Certificate can be accessed at: [Universidad De Murcia](#)
Código seguro de verificación: RUxFMjzp-claJ04Z3-eCvw9Ke8-TDAA3tT+
Fecha-hora: 01/10/2018 - 19:34

3 Projects

bulldozer

A deobfuscator/decompiler written in JavaScript for JavaScript "binaries", currently targeted at collina.js from AliExpress. Reconstructing a flattened CFG, recovering control structures and deobfuscating literals via partial evaluation.

<https://github.com/ceres-c/bulldozer>

ChameleonMini

Collaborated to the development of the ISO15693 part of the ChameleonMini open source project. Refactored the de/modulation codec, fixing bugs and improving the overall performance. Developed the ISO15693 sniffing codec, and an application to emulate a complex tag which first had to be reverse engineer due to lack of public documentation.

<https://github.com/emsec/ChameleonMini>

PicoMax

A basic voltage glitcher built around the Raspberry Pi Pico and a MAX4619 switch to attack the code protection feature on a Microchip PIC IC. Also implemented the Microchip debug protocol in Raspberry Pi Pico PIO, obtaining a PIC programmer as a byproduct.

<https://github.com/ceres-c/PicoMax>

Calculus 2 notes

Composed LaTeX notes for the calculus course at Università degli Studi di Brescia to reinforce my understanding. Aimed to be an alternative to the official notes through a clearer while still scrupulous presentation of proofs.

<https://github.com/ceres-c/unibs-analisi2>

4 Social

1. *Association President* 2018-01 - 2019-12
[Hackerspace MuHack](#) (Brescia)
2. *Association Treasurer* 2020-01 - 2020-12
[Hackerspace MuHack](#) (Brescia)