

Dimitri Kokkonis

Curriculum Vitae

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> <https://kokkonisd.github.io>

Education

- Dec 2022–present **PhD student**, Université Paris-Saclay, CEA List & Polytechnic Institute of Paris, Paris, France
I work in the BINSEC team (<https://binsec.github.io>) under the supervision of Stefano Zacchiroli and Michaël Marcozzi, on the automatic detection of advanced vulnerabilities at the binary level using dynamic analysis.
- Sep 2023 **Summer school student**, Summer School on Security Testing & Verification, Brussels, Belgium
I attended the 2023 Summer School on Security Testing and Verification, organized by KU Leuven and VUB. Relevant lecture topics: static and dynamic program analysis, program verification.
- Aug 2023 **Summer school student**, Marktoberdorf Summer School, Marktoberdorf, Germany
I attended the Marktoberdorf 2023 Summer School on Safety and Security through Formal Verification. Relevant lecture topics: proof assistants, SMT solvers, symbolic execution, program verification.
- Sep 2017–Aug 2020 **Master of Science in Embedded Systems**, Polytech Sorbonne (Pierre & Marie Curie University), Paris, France
Relevant courses: Algorithms & Data Structures, Information Theory, Numerical Methods, Operating Systems, Compilers, Machine Learning, Networking, Analog Electronics, Digital Electronics.
- Sep–Dec 2019 **Exchange student**, University of Toronto, Toronto, Ontario, Canada
First student of Polytech Sorbonne to be accepted at the University of Toronto. Courses: Advanced Algorithms, Quality of Service, Digital Design, Computer Security.
- Sep 2015–Aug 2017 **Preparatory course of the Polytech Engineering Schools (PeiP)**, Polytech Tours, Tours, France
88th out of 1500 in the national ranking of Polytech students (PeiP A). Relevant courses: Algorithms, Object-Oriented Programming, Fourier Analysis, Electromagnetism, Power Electronics.
- Personal experience**
- Programming I have been programming since I was 15 years old. I have participated in the **National Computer Science Contest** (2015, Greece), in **Google Hashcode** (2018 & 2019), in the **Facebook Hackathon in Paris** (2018 & 2019), in the **Google foobar challenge** (2022–2023). I create and host open source projects and blog posts on my personal site (<https://kokkonisd.github.io>).

Publications

- ICSE 2025 **ROSA: Finding Backdoors with Fuzzing**, 47th International Conference on Software Engineering
Dimitri Kokkonis, Michaël Marcozzi, Emilien Decoux, Stefano Zacchiroli
 - Award winner: *Best Artifact* (ICSE'25)
 - Award winner: *Best Publication of the Department for 2025* (CEA List, DILS)

Teaching

- Oct 2023–Jan 2024, Oct 2024–Feb 2025, Oct 2025–Feb 2026 **Algorithms and programming (36 hours)**, ENSTA Paris, Paris, France
I worked as a teaching assistant in charge of the lab sessions of the IN101 “Algorithms and programming” course for the first-year engineering students at ENSTA Paris. This is an introductory course to algorithm design applied to real programs using C, with a light overview of basic proofs of complexity, termination and correctness. I also helped answer clarifying questions during the exam sessions, and graded about 20 exam sheets per year.

Jan 2025

Intro to Fuzzing (3 hours), Télécom SudParis, Paris, France

I created and taught (along with another TA) an introductory lab to fuzzing for 5th-year students at Télécom ParisSud. The lab presented various vulnerable C programs with different types of vulnerabilities of increasing complexity, and the students had to successfully find crashes (symptoms of the underlying vulnerabilities) with the AFL++ fuzzer.

Sep–Oct 2024

From logic gates to operating systems (18 hours), Télécom Paris, Paris, France

I worked as a teaching assistant in charge of the lab sessions of the INF107 “From logic gates to operating systems” course for the first-year engineering students at Télécom Paris. The students start by constructing simple digital circuits using logic gates, and then build on those constructions to arrive at a simple processor, to then finish the course with an overview of C and some basic OS-level functionality such as multiprocessing and filesystems.

Feb–Apr 2024

Web development (9 hours), Télécom Paris, Paris, France

I worked as a teaching assistant in charge of the lab sessions of the INF203 “Web Development” course for the second-year engineering students at Télécom Paris. This is an introductory course to Web technologies and frameworks, with some background on security. The course was fully taught in English.

Sep 2023

Finding Vulnerabilities with Fuzzing, Summer School on Security Testing & Verification, Brussels, Belgium

I co-presented an introductory course in fuzzing together with my PhD supervisor Dr. Michaël Marcozzi at the 2023 Summer School on Security Testing and Verification. Specifically, I was in charge of showing the students how to use AFL++—a well-known fuzzer—in a simple demonstration, followed by a CTF (Capture-The-Flag) challenge.

Presentations & talks

Feb 2026

Bringing automatic detection of backdoors to the CI pipeline, FOSDEM’26, Brussels, Belgium

Jan 2026

Finding backdoors with fuzzing, FOSDEM’26, Brussels, Belgium

Mar 2024

Automatic backdoor detection at the binary level, WISG’24 (Workshop Interdisciplinaire sur la Sécurité Globale), Rennes, France

First-place best presentation award

Nov 2021

Software Composition Analysis using open-source tools, Open Source Experience 2021, Paris, France

<https://www.youtube.com/watch?v=nWiAQ-jFdU0>

Academic service

• **Paper review:** SANER’24, SOAP’24, FUZZING’25, OOPSLA’25, ASE’25

• **Artifact evaluation:** ECOOP’24

Professional experience

Nov 2020–Sep 2022

QA Release & Support engineer, AdaCore, Paris, France

AdaCore (<https://www.adacore.com>) creates and maintains GNAT, the main Ada compiler, as well as other code validation and code generation tools. I integrated the QA Release & Support team, actively participating in the development and productization process and maintaining the production system. My work focused on supply chain security and software composition analysis, and specifically in the detection of known vulnerabilities (CVEs) in the dependencies of AdaCore’s software.

Mar–Aug 2020

Embedded Computer Vision intern, STMicroelectronics, Paris, France

STMicroelectronics (<https://www.st.com>) is one of the largest semiconductor manufacturers in the world. I integrated a multidisciplinary team dispersed across multiple countries and developed a machine learning model for an AI-on-the-edge low-power application on a resource-restricted embedded platform. I also designed and tested a fully functioning demo for potential clients.

Embedded IoT intern, Zerynth, Pisa, Italy

Zerynth (<https://www.zerynth.com>) is a company that provides a Python VM with minimal memory footprint to simplify firmware development. I developed low-level C firmware libraries and performed analysis on data collected by a WiFi sniffer to infer relationships between companies in a startup incubator.

References

- Pr. Stefano Zacchiroli, full professor of Computer Science at Télécom Paris, PhD supervisor (stefano.zacchiroli@telecom-paris.fr)
- Dr. Michaël Marcozzi, permanent researcher at the CEA List institute from Université Paris-Saclay, PhD supervisor (michael.marcozzi@cea.fr)
- Dr. Sébastien Bardin, senior researcher & CEA Fellow at the CEA List institute, head of the BINSEC team (sebastien.bardin@cea.fr)
- Dr. François Pessaux, professor of Computer Science at ENSTA ParisTech, supervising professor (TA role) (francois.pessaux@ensta.fr)

Skills**Computer Science & Embedded Systems**

Concepts	Fuzzing (dynamic analysis), reverse engineering, binary program analysis, symbolic execution
Languages	C/C++ (both <i>desktop</i> and <i>embedded</i>), Rust, Python, assembly (x86, MIPS, ARM), MCU linker scripts/startup programs, VHDL, Java, JavaScript
Software	AFL++, QEMU, Ghidra, git, LaTeX, Typst, Bash/Zsh, Neovim, UNIX systems
Hardware	Microcontrollers (STM32 Cortex-M, ESP32, ATmega), FPGAs, Raspberry Pi
Languages	
English (fluent)	117/120 on the TOEFL test, 10+ years of academic & professional experience
French (fluent)	10+ years of academic & professional experience
Greek (fluent)	Native language

Interests & hobbies

Music	Have been studying music since the age of 6, very interested in performance as well as composition. Written, recorded and produced three musical albums (https://jimikokko.bandcamp.com).
Theater	Active member of the Theater in English group of Polytech Sorbonne in 2017–2018. Founder/organizer of the Polytech Sorbonne student's theater group (2018–2019).