Benoît Morgan | Resume

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- Positions: **Offensive Security Researcher** @ Intel Corporation
  Associate professor @ INP-Toulouse University
- Previous: **Security researcher engineer** @ Airbus Operations SAS
- Research: **Software and hardware architectures security**
- Teaching: { **Software | Hardware | Side channel | Network | kernel** } vulnerabilities
- In charge: *Toulouse SEcurité* (**TLS-SEC**) Training @ INP-ENSEEIHT

Experience

Offensive Security Researcher (Intel Corporation) 2021 - now

- Complex microprocessors security: vulnerability research, exploitation, fuzzing, hardening
- Microarchitecture - firmwares - hardware architectires - interconnects - PCI Express

Associate professor (INP-Toulouse University) 2018 - now

- Software and hardware architectures security
- Automated security monitors verification - algorithm transparency

Trainer & in charge (Toulouse SÉcurité trainings - TLS-SEC) 2018 - now

- Master's degree 100 % dedicated to technical aspects of security
- **Cryptography** - { **Software | Hardware | Network | Kernel | Hypervisor** } security

Security research engineer (Airbus Operations SAS) 2017 - 2018

- Aircraft critical embedded systems security
- SoC audit - Design of secured systems architectures - FPGA based security monitors

PCIe and IOMMU [1] [2] (LAAS-CNRS) 2015 - 2018

- Offensive research - malicious PCIe endpoint - IOMMU
- Development of an FPGA based DMA attack platform - DMA IOMMU bypass - DMA rootkits

Abyme recursive bare-metal security hypervisor [1] [2] [3] (LAAS-CNRS) 2013 - 2015

- Security hypervisor - remote attestation
- Recursive virtualization - remote VM debug protocol - bare-metal e1000e UEFI driver

Research activity **technical details** @ **https://benoit.m0rgan.net/research/**

Education

Graduated Ph.D. Candidate (University of Toulouse) 2013 - 2016

- Thesis: Protection of computer systems against attacks : a hardware assisted security hypervisor
- Remote attestation of x86 software thanks to a co-designed PCIe endpoint and x86 hypervisor

Master Project - Tinyvisor (LAAS-CNRS) 2013 : 6 month

- Development of a tiny bare-metal x86 hyperisor
- ELF64 loader - bios legacy - VT-x

Graduated French engineering school student (INSA Toulouse) 2010 - 2013

- Computer science & Networking Engineer
- Embedded critical systems - Information systems security