

# BENOIT MICHAU

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Looking for a position in Paris, France; including some work from home.

*Dynamic and autonomous, real adaptation skills and solid motivation for teamwork.  
Broad spectrum of computer science and technical knowledge with a focus on security,  
from IT production to R&D in radio-transmissions, cellular and core networks.*

## EXPERIENCE

### 2018 – TODAY: **R&D ENGINEER**, P1SECURITY

Supporting the research effort at P1, with development and software prototyping; develop and maintain open-source and internal libraries. Company-wide expertise and support on the security of cellular networks, provide training on mobile network security, take part in consulting, pen-testing, fuzzing and signaling analysis tasks during customers missions.

### 2011 – 2018: **RESEARCH ENGINEER**, ANSSI – PRIME MINISTER SERVICES

In the wireless security laboratory of the French Network and Information Security Agency. Development of cellular testbeds (2G-3G-LTE, SIM cards) and radio-transmissions analysis systems; writing articles, guides and recommendations on the security of mobile and Wi-Fi systems.

### 2007 – 2011: **RESEARCH ENGINEER**, FRANCE TELECOM R&D – ORANGE LABS

In the systems and networks security laboratory. Security analysis in R&D projects for radio access (LTE, femtocells, Wi-Fi), IP transport and mobile core networks (EPC, IMS); contributions to RFP; security audits on fixed-mobile convergent platforms and strategic applications of the France Telecom - Orange group.

### 2004 – 2007: **IT SECURITY ENGINEER**, FRANCE TELECOM

In the IT and servers' operation and management direction. Steering the deployment of an infrastructure to access and operate securely production servers (more than 5000 UNIX, Linux and Windows); definition of the quality process for controlling access to the servers, ensuring compliancy to legal aspects (Sarbanes-Oxley law).

## SKILLS

### COMPUTER SCIENCE

- Working both with Windows and Linux environments, basic knowledge of UNIX systems, smartcards, embedded, real-time and telecoms systems (VxWorks, Linux and containers).
- Python and C programming, mastering ASN.1 and shells, knowledge of Lua, HTML-CSS, PHP-MySQL, VHDL and FPGA programming.
- Long experience with signaling protocols in telecommunication networks (RAN, Core, SS7, Diameter, GTP, ASN.1, OpenAPI, NAS...).
- Deep knowledge of cryptography (symmetric, asymmetric and hash algorithms, authentication protocols), IPsec VPN, IP and telecoms networks, radio-transmission techniques.
- Network and computer security tools (nmap, metasploit, scapy), GNURadio, SciPy, image and audio processing tools, Microsoft Office suite and LaTeX.

### LANGUAGES

French native, fluent in English and German.

## HONORS

- Nominated in the "[GSMA Mobile Security Research Acknowledgements](#)" in 2021.
- Appointed "ANSSI specialist" on the security of mobile networks, in 2017.
- Nominated in the "[Qualcomm Product Security Hall of Fame](#)" from 2012 to 2015
- Appointed "Orange security expert", in 2011.

## RESEARCH ACTIVITIES

### CONFERENCES AND PUBLICATIONS

- SSTIC (FR) : 2022 with Marin Moulinier, "[La signalisation chez les opérateurs mobiles](#)"; 2018, "[pycrate: tester les systèmes télécoms et cellulaires avec Python](#)"; 2016 with Christophe Devine, "[How to not break LTE crypto](#)"; 2014, "[Analyse sécurité des modems des terminaux mobiles](#)"
- P1 Security Labs [blog](#)
- MISC 115 (FR), "[La sécurité des communications 5G](#)"
- Qualcomm mobile security summit 2015, "Testing WCDMA and LTE mobile stacks"
- C&esar 2011 (FR), "La sécurité dans les réseaux mobiles LTE"

### OPEN-SOURCE SOFTWARE

<https://github.com/mitshell/> and <https://github.com/p1-bmu/>.

Development of libraries and applications, in Python and C: management of complex formats and structures (e.g., ASN.1 compiler), cryptography for mobile networks, 3G and LTE core network emulator, analysis and programming of SIM cards, 802.15.4 network analyzer, mobile network and geographical codes database.

### TEACHING

Organization and teaching of 5G security modules for P1 Security, from 2019.

Organization and teaching within the CFSSI (Information Systems Security Training Center at ANSSI) of a course dedicated to the security of wireless networks from 2012 to 2018.

Teaching various modules on Wi-Fi and cellular networks security for master's degree (UVSQ, ESIEA, INSA Lyon, Telecom ParisTech) from 2010 to 2018.

### STANDARDIZATION AND PATENTS

Orange - France Telecom's delegate in the 3GPP SA3 working group from 2008 to 2011 (on 2G, 3G and LTE networks' security), coauthor of two patents at Orange Labs.

## EDUCATION

**JULY 2003: GRADUATE IN ELECTRICAL ENGINEERING**, GRENOBLE INP

Master's degree; specialized in electronics, signal and image processing

**JULY 1998: BACCALAURÉAT**, STENDHAL INTERNATIONAL HIGH-SCHOOL (GRENOBLE)

High-school diploma in the scientific stream with specialization in mathematics.

## ACTIVITIES

Playing acoustic and electronic music.

Love mountain's sports and activities.