

Samy HORCHANI

Cryptography Engineer

Paris, France | [Github](#) | [Linkedin](#) | [Portfolio](#)

WORK EXPERIENCE

INTERN ENGINEER – ORANGE, ARCUEIL

February 2025 - August 2025

- **Post-Quantum Cryptography and Cybersecurity**
- Implementation of a replicable testing platform in a containerized environment (Docker) and measurement of post-quantum cryptographic (PQC) algorithms for TLS and mTLS
- Integration of a GitLab CI/CD pipeline
- Configuration and deployment of Nginx and Apache servers on cloud infrastructure
- Development of a PKI (generation and management)
- Identification of technical prerequisites required for PQC migration and cryptographic inventory (CBOM)
- **Tools:** GitLab, Docker, OpenSSL, Prometheus, Grafana, Linux, Python, TLS/mTLS, Bash, liboqs (+ OQSProvider), Go, JavaScript/HTML/PHP, Nginx, Apache

RESEARCH ASSISTANT - OKAYAMA UNIVERSITY, JAPAN

June 2024 - August 2024

- **Network Security (Internship conducted entirely in English)**
- Development of a platform for simulating network problems using Chaos Engineering tools (Pumba)
- Generation of synthetic data and quantitative and qualitative analyses of it
- **Tools:** Docker, Go, Containerlab, Pumba, .NET, Linux, Bash

EDUCATION

MASTER'S DEGREE IN COMPUTER SCIENCE – CRYPTOLOGY, HIGH-PERFORMANCE COMPUTING & ALGORITHMS

Sorbonne Université | 2023-2025

BACHELOR'S DEGREE – COMPUTER SCIENCE & MECHANICAL ENGINEERING

Sorbonne Université | 2020-2023

IT PROJECTS

CRYPTOGRAPHY / SECURITY

- **Side-Channel Attacks**
- Embedded security and hardware attacks, power analysis attacks, fault attacks, timing analysis attacks, software countermeasures against attacks, evaluation of secret leakage

HIGH-PERFORMANCE COMPUTING (HPC) / PARALLEL PROGRAMMING

- **Neural Network Performance for Standard Random Distribution Generation**
- Parallelization of algorithms on CPU and GPU to evaluate efficiency during neural network inference
- **Tools:** Python (NumPy, PyTorch), C/C++ (CUDA, OpenMP, MPI), Neural Networks, Monte Carlo Method

SKILLS

Cryptography and Security

- IAM, PKI, ANSSI Recommendation, NIST Recommendation
- ECC, ECDH, RSA, AES, PKCS (PKCS#11, PKCS#12)
- NIST PQC Standard (ML-KEM, ML-DSA, SLH-DSA)
- OpenSSL, LibOQS (+ OQSProvider)

Certification

- SecAnumacadémie (ANSSI)

Languages, Development & Systems

- C/C++, Python, Go, SageMath, Matlab, Bash, SSH, Git, Nginx, Apache, Linux, Windows, Docker, CUDA, CI/CD (Github Actions and Gitlab), Prometheus, Grafana, Wireshark, MIPS Assembly, JAVA

Soft Skills

- Rigour and analytical skills, Autonomy, Teamwork, Adaptability

OTHERS

- **Languages:** French (C2 - Native speaker), English (C1 - Advanced)
- **Hobbies:** Running, Indoor climbing, Reading (Dystopian and science fiction)