

Francesco Intoci Security Research Engineer

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📍 Zurich, Switzerland

📅 04 Jan 1999

🇮🇹 Italian

in Francesco Intoci

🔗 intx4.github.io



STRENGTHS

- **Security:** Solid background in computer science, networking and security. Strong interest in applied cryptography and Privacy-Enhancing-Technologies.
- **Software:** Fluency in Go and Python, at ease learning new programming languages. Code quality evangelist.
- **Soft Skills:** Research-oriented individual, with excellent problem-solving skills. Collaborative and communicative team player, consistently sharing knowledge and fostering effective group dynamics.

EXPERIENCE

Jul 2023 – Dec 2023
Zurich, Switzerland

Intern - Security Research Engineer, Huawei

Working on **Confidential Computing** for cloud deployments, focusing on hardware (**TEEs**) and cryptographic (**FHE, MPC, DP**) based solutions.

Oct 2022 – May 2023
Lausanne, Switzerland

Intern - Master Thesis Student, CYD Campus - Armasuisse

- Design and Implementation of an **Information Retrieval Scheme** based on **Homomorphic Encryption** to allow private Lawful Interception in **5G Core** 🔗
- Participation to **Locked Shields 2023** exercise as Blue Team - **main responsible of 5G systems**
- Technologies: *Python, Go, C, Docker, Ansible*

Mar 2022 – present
Lausanne, Switzerland

Semester Project - Summer Student researcher, EPFL

- Implementation of a generic framework for **Privacy-Preserving MLaaS** in cloud environments based on **FHE** and **MPC**. 🔗
- Technologies: *Go, Python, PyTorch, numpy*

EDUCATION

Sep 2020 – Mar 2023
Lausanne, Switzerland

EPFL, CyberSecurity - Master Degree

- **Excellence's Fellowship** holder (**Top 3% students**)
- GPA **5.79 / 6.00**

Sep 2021 – Mar 2022
Zurich, Switzerland

ETH, CyberSecurity - Master Degree (Exchange Semester)

- **Best Semester Project Award** for 227-0575-00L Advanced Topics in Communication Networks

Sep 2017 – Jul 2020
Torino, Italy

Politecnico di Torino, Computer Engineering - Bachelor Degree

- GPA **110 / 110 cum laude**

SKILLS

Privacy Enhancing Technologies ● ● ● ● ●

Applied knowledge of cryptographic primitives (FHE, MPC, DP) and hardware solutions (TEE, HSM, TPM) for Confidential Computing. Familiarity with ZKP and interest in zkSNARKs.

Security ● ● ● ● ●

Network Security, System Security (Linux), Software Security.

Data Analysis and Machine Learning ● ● ● ● ●

SQL, Data Analysis, Deep Learning, Big Data.

Software Engineering ● ● ● ● ●

Go, Python (fluent), C, Bash (experienced), Java, Scala, JavaScript (basics). Distributed/Concurrent programming. Software Testing. Version Control (Git). Virtualization (Docker, QEMU). Automation (Ansible).

Soft Skills ● ● ● ● ●

Leadership. Team-Working. Excellent Oral and Written Communication Skills. Problem-Solving. Capability of working under pressure.

LANGUAGES

Italian	<div><div></div><div></div><div></div><div></div><div></div></div>	English	<div><div></div><div></div><div></div><div></div><div></div></div>
Spanish	<div><div></div><div></div><div></div><div></div><div></div></div>	French	<div><div></div><div></div><div></div><div></div><div></div></div>

PUBLICATIONS

P3LI5: Practical and Confidential Lawful Interception on the 5G Core

Confidential - Under submission at **IEEE CNS 2023**.

slytHERin: An Agile Framework for Encrypted Deep Neural Network Inference, *Springer*

Accepted for publication at **ACNS 2023 - 5th Workshop on Cloud Security and Privacy (Cloud S&P 2023)**.