Daniel Filipe Nunes Silva

COMMUNICATION SYSTEMS ENGINEER
SPECIALIZED IN CYBERSECURITY

PERSONALITY

Interests
Specialty Coffee
Watchmaking

Traits
Honesty
Critical Thinking
Enthusiasm

PERSONAL INFO

Location
Fribourg, Switzerland

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ABOUT ME

I am a communication systems engineer specialized in cybersecurity. Facing new challenges, learning modern technologies, and working on hands-on projects motivate me. I aim to enable positive change in our digital world using my skills in security and privacy.

EDUCATION

MSc in Communication Systems at EPFL **2019-2022**
Strong background in cryptography, software and information security, formal verification, and interest in image processing and machine learning

BSc in Communication Systems at EPFL **2016-2019**
Strong background in mathematics, information theory, algorithms, and interest in visual computing and data science

EXPERIENCE

Cryptography Intern at Nym Technologies SA **SEP. 2021-MAR. 2022**
Design and implement Rust applications for the Nym network leveraging attribute-based credentials and zero-knowledge proofs

Software Developer at PROGIN SA **SUMMER 2020**
Develop a dedicated construction cost estimating software in C# and a SQL database suiting the specific needs of the company

Research Intern at Kudelski Security **SUMMER 2019**
Build a proof of concept for the FENTEC project by extending FFmpeg C source code to perform motion detection on encrypted video streams

Low-Voltage Systems Developer at EPFLRT **FEB. 2019-MAR. 2020**
Integrate several sensors in EPFL's Formula Student racing car in collaboration with the different divisions to allow data acquisition

PROJECTS

Formally Verified Prefix-Free Codes
Implement a prefix-free encoder-decoder pair in Scala and formally prove the implementation for correctness using the Stainless framework

Zero-Knowledge Circuit Evaluation with Preprocessing
Implement the ZKB++ protocol featuring KKW preprocessing, which enables privacy-preserving computations, in Go and using the Lattigo library

Software Security Labs
Practice code audit, unit testing, and fuzzing. Play CTFs such as exploitation, reverse engineering, and forensics

COMPETENCIES

Programming
Python, Go, Rust, C, C#, Java, SQL
Scala, Stainless, Coq
Linux, Shell Scripting, Git, Vim

Competitions
Google Hash Code 2018, 2019 and 2021
LauzHack 2018
EPFL Santa's Algorithmic Challenge 2017
Swiss Olympiad in Informatics 2016

Interpersonal Skills
Collaboration
Adaptability
Active Listening

Languages

French	Native
Portuguese	Native
English	C1
German	B2