Daniel Filipe Nunes Silva

COMMUNICATION SYSTEMS ENGINEER
SPECIALIZED IN CYBERSECURITY

PERSONAL INFO

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Location
Fribourg, Switzerland

PERSONALITY

Traits
Honesty
Critical Thinking
Enthusiasm

Interests
Specialty Coffee
Watchmaking
Formula 1

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
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	Interpersonal Skills
Python, Go, Rust, C, C#, Java, SQL	Collaboration
Scala, Stainless, Coq	Adaptability
Linux, Shell Scripting, Git, Vim	Active Listening

Competitions	Languages	
Google Hash Code 2018, 2019 and 2021	French	Native
LauzHack 2018	Portuguese	Native
EPFL Santa's Algorithmic Challenge 2017	English	C1
Swiss Olympiad in Informatics 2016	German	B2