Giovanni **Ranieri**

CONTACT

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Profile: Master Student at EPFL in Communication Systems. High interest in Mathematics applied to communication, robotics and quantum engineering. *Currently looking for an Master Thesis in industry*.

WORK EXPERIENCE

Vice-President Research - EPFL Xplore | 2025-PRESENT

Lead the EPFL Xplore Research pole — strategy, event programming, and external representation of the association.

Software System Enginner - EPFL Xplore | 2024-2025

Winner of the European Rover Challenge 2025. Responsible for the entire software system of a Martian-like Rover, leading a team of 20 bachelor and master students in the European Rover Challenge 2025.

Student Assistant - VILAB, EPFL | Fall 2023

Contributed to the creation of the new IC Bachelor course "*Communication System Project*"

Control Station Member - EPFL Xplore | 2023-2024

Control Station web developer and Mikrotik configurations with RouterOS.

EDUCATION

EPFL, Swiss Federal Institute of Technology Lausanne | 2025-PRESENT

Master of Science in Communication Systems

EPFL, Swiss Federal Institute of Technology Lausanne | 2020-2024

Bachelor of Science in Communication Systems - GPA **5**/6

Gymnase in Nyon | 2017-2020

High School (Baccalauréat) - Biology and Chemistry option

PROJECTS

Evaluation of NPU Acceleration for Offloading 5G Software Workloads | Spring 2025

FFT Implementation on AMD/Xilinx XDNA/AIE-ML Neural Processing Unit using MLIR-AIE. Evaluation of performance compared to CPU implementation from srsRAN.

Speeding up the Quantification of Data Staleness in DBO | Spring 2024

C++ Implementation of a critetion for a well-suited optimizer for dynamic black-box functions. Evaluation of performance compared to state of the art methods.

- Contribution to NeurIPS'24 Paper "*This too shall pass: Removing Stale Observations in Dynamic Bayesian Optimization*"

Flipper - A Snake Robot | Spring 2023

A 1m20 long Snake Robot designed and built at EPFL (Making Intelligent Things course).

- *Invited to present at annual EPFL IC Section Meeting in Lausanne*
- *Invited to showcase at Viscon2023 in ETH*
- Interviewed for EPFL News

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SKILLS

Programming & Technologies

- C/C++, Java, Python, JavaScript, Assembly, VHDL/Verilog
- Docker, Kubernetes, Redis, MongoDB, RabbitMQ, ReactJS, ROS2, AWS

Mathematics & Computer Science

- Statistical Signal Processing, Stochastic Models
- Digital Communications, Mobile Networks, Satellite Theory
- Algorithms, Computer Architecture

Management

- EPFL Xplore (Research & Competition Poles)

Languages

- French (Native Speaker)
- Italien (Second Language)
- English (Fluent)

INTERESTS

Embedded Systems: System Programming, Digital Signal Processing

Communication Theory: Mathematical Foundations, Mobile Networks, Protocols

Space industry: Robotics, Applications to Telecommunications

CERTIFICATES

European Rover Challenge | 2024 & 2025: Winner 2025 Edition as Lead Software

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OTHER ACTIVITIES

Sport: Climbing, Swimming

Students 4 Students: Student Assistant for Analysis and Physics in a preparation week for new EPFL students