

# Pierre Colson

## Software Engineer

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Software engineer educated at **EPFL** and **ETHZ**, with over **three years of professional experience at Rolex**, working across **multiple teams and technical domains**. Skilled at integrating into new environments, **adapting quickly** to unfamiliar subjects, **communicating effectively** with diverse stakeholders, contributing efficiently in collaborative settings, and maintaining **strong self-driven learning** through personal projects.

## Education

- **Master of Computer Science – Cyber Security** at EPFL (École Polytechnique Fédérale de Lausanne) and ETHZ (École Polytechnique Fédérale de Zürich)
- **Bachelor in Computer Science** at EPFL with and erasmus year at KTH (Royal Institute of Technology), Stockholm

## Work Experience

**Rolex — Software Engineer** February 2023 – Present

*Engineering & Manufacturing Systems*

- Maintained, refactored, and extended large-scale PLM systems
- Implemented a major PLM data migration, focusing on data consistency, validation, and migration tooling
- Designed and implemented a proof-of-concept replacement for an existing manufacturing-tolerance generation system, rethinking the architecture to improve correctness, robustness, and maintainability

*Application & Data Security*

- Developed an internal AI chatbot specialized in cybersecurity, integrating external data sources and tooling
- Built portable tools to verify cryptographic implementations on service cards
- Designed and implemented a tool to analyze and optimize Data Loss Prevention (DLP) rules

*3D Rendering*

- Developed a 3D plugin enabling realistic, dynamic rendering of watch springs

**EPFL — IT Helpdesk** September 2021 - July 2022

- Provided hardware and software support for students, researchers, and staff

**Teaching Assistant (EPFL & University of Lausanne)** 2018 – 2022

- Designed exercises and assignments for a cybersecurity course
- Assisted first-year mathematics students in C++ programming, adapting explanations to varied technical backgrounds

## Selected Academic & Personal Projects

**Remote Attacks on FPGA Clock Networks** February 2022 – June 2022  
- Designed and evaluated remote attacks targeting FPGA clock networks and system reliability

**DRAM Rowhammer Attack** September 2022 – December 2022  
- Built a practical Rowhammer exploit against a co-located virtual machine - Reverse-engineered DRAM subsystems, bypassed mitigations, and explored DDR5 behavior

## iOS Applications Development

2019 – 2025

- Developed multiple iOS apps including a game (TacTix), a flashcard app with spaced repetition, and a family recipe app

*Additional projects:* compiler construction (L3 language), processor simulator, distributed systems protocols, Gameboy emulator, Advent of Code, personal homelab

## Skills

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### Programming

- Strong: Java, Python, C, Linux, Git, Gitlab
- Good: Rust, C++, Scala, Docker, Assembly, VHDL, LateX
- Basic: Dart, Swift, Shell, HTML/CSS/JavaScript

**Languages** - *French*: Native, *English*: Fluent, *Spanish*: Intermediate, *Japanese*: Beginner

**Interests** - Sports (Tennis, Badminton, Ultimate Frisbee), Mountain activities (Hiking, Skiing), Coding, Video Games