

## Work

### **Static Code Analysis Developer, Sonar** – May 2024-April 2025

Redesigned the dataflow bug detection engine, resulting in 2× the true positive rate and 1/5<sup>th</sup> the false detection rate on internal Java and Python benchmarks without degrading performance. Used Agile development methods and tools such as JIRA and Trello.

### **Co-Instructor, EPFL** – 2022-23

Redesigned the Software Engineering course to use evidence-based teaching methods. Lectured half of the course for ~150 students per year leading a team of ~10 assistants. Previously head TA for the course from 2018-21.

### **Research Intern, Microsoft Research Redmond** – Summer 2023

Designed a .NET domain-specific language in C# to model optimization problems and heuristics. Enabled domain modelers to write simpler and more transparent models that get solved faster.

### **Software Developer, PocketCampus** – 2014-18

Ported the official EPFL app to Windows Phone in C# using Visual Studio, with ~300 daily users. Implemented the backend in Java using IntelliJ, with ~10,000 daily users across platforms.

## Education

### **PhD in Computer Science, EPFL** – 2024

“Automated Formal Verification of Software Network Functions”, advised by George Candea. Designed new verification techniques and implemented them in C#, Python, C, and C++.

### **Master’s & Bachelor’s in Computer Science, EPFL** – 2018 & 2015

GPA: 5.6/6 and 5.2/6 respectively.

## Selected Publications

### **Safe Low-Level Code Without Overhead is Practical**

S. Pirelli, G. Candea. ICSE 2023.

### **Automated Verification of Network Function Binaries**

S. Pirelli, A. Valentukonytė, K. Argyraki, G. Candea. NSDI 2022.

### **A Simpler and Faster NIC Driver Model for Network Functions**

S. Pirelli, G. Candea. OSDI 2020.

### **A Formally Verified NAT**

A. Zaostrovnykh, S. Pirelli, L. Pedrosa, K. Argyraki, G. Candea. SIGCOMM 2017.

## Service

### **President, LauzHack association** – 2021-23

Led a team of ~15 volunteers organizing LauzHack, the yearly student-run hackathon at EPFL, for ~300 Swiss and European attendees. Founding member of the event from 2016 onwards.

### **President, PolyProg association** – 2016-19

Led a team of ~15 volunteers organizing the yearly Helvetic Coding Contest, Switzerland’s largest ICPC-style programming competition, for ~200 attendees.

### **Artifact Evaluation Chair, Computer Systems Conferences** – 2022, 2026

Co-chair for EuroSys 2022, leading 65 evaluators. Co-chair for SOSP 2026.

Also volunteered as artifact evaluator for OSDI 2020-21, EuroSys 2021, and SOSP 2021.

## Awards

### **Distinguished Service Award, EPFL IC Faculty** – 2023

For exceptional contributions to the PhD program.

### **Teaching Assistant Award, EPFL IC Faculty** – 2015, 2016, 2021

For outstanding work in the Software Engineering course.

## Languages

**French**, native

**English**, fluent