

Simone Colli

COMPUTER SCIENCE STUDENT

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Education

University of Parma

MASTER'S DEGREE IN COMPUTER SCIENCE

Parma, Italy

Sept. 2024 - Expected July 2026

University of Parma

BACHELOR'S DEGREE IN COMPUTER SCIENCE, GRADE: 108

Parma, Italy

Thesis title: A parallel algorithm for computing sequence homology in pangenomic analysis. Advisor Prof. V. Bonnici

Sept. 2021 - July 2024

havce CTF team, University of Parma

CYBERSECURITY COURSE

Parma, Italy

A cybersecurity training program for university and high school students organized by the Cybersecurity National Lab. (CyberChallenge.it)

2021 & 2024

Artistic roller skater

HIGH-LEVEL ATHLETE

Italy

I believe that sports, especially when practiced at a high level, can be considered a means of teaching; not purely under a professional perspective, but a personal one, because it teaches the values of organization, perseverance, patience, resilience, and many other skills that fall under the category of soft skills.

2007 - 2023

Experience

Self-employed

Remote

FREELANCE SOFTWARE DEVELOPER

January 2026 - Present

- Designed and developed custom software solutions for private clients and small businesses, managing the full software development life cycle.
- Developed web applications and automation tools to streamline business processes.
- Managed client relationships, including requirement analysis, project estimation, and post-release maintenance.

unipr-org

FOUNDER & MAINTAINER

January 2024 - Present

An organization that brings together University of Parma students to collaborate on open-source educational materials and projects.

(github.com/unipr-org)

Freelance Tutor

IN-PERSON & ONLINE

February 2022 - Present

Provided tutoring services for university and high school students, Topics: C, C++, Java, Python, algorithms and data structures, web development.

Tutor

UNIVERSITY OF PARMA

Parma, Italy

September 2025 - December 2025

Tutor of the "Ingegneria del Software" bachelor course in the Computer Science degree.

Workshop: Use of Graphics Libraries for Software Implementation

Parma, Italy

UNIVERSITY OF PARMA

June 16, 2025 - June 19, 2025

Intensive bootcamp focused on the fundamentals of Python programming and the use of a graphics library. The learning path culminated in programming an application (the Pong game), providing participants with practical software development skills.

Tutor

Parma, Italy

UNIVERSITY OF PARMA

February 2025 - June 2025

Tutor of the "Sistemi operativi" bachelor course in the Computer Science degree.

Workshop: Tutoring from Different Perspectives and Supporting IT Tools

Parma, Italy

UNIVERSITY OF PARMA

January 24 2025

Presented and discussed the various perspectives (student, tutor, and lecturer) and related challenges concerning the role of a tutor

Tutor

Parma, Italy

UNIVERSITY OF PARMA

September 2024 - December 2024

Tutor of the "Ingegneria del Software" bachelor course in the Computer Science degree.

Internship

UNIVERSITY OF PARMA

February 2024 - June 2024

University internship focused on the development of parallel software for pan-genomic analysis. Languages used: C++, Python, Bash.

Tools and Softwares

Quantum Portfolio Optimization

PYTHON

2025

Development of a Python-based quantum portfolio optimization tool, leveraging the power of quantum computing to enhance portfolio management and investment strategies. The project explores the potential of hybrid algorithms VQE e QAOA, that combine classical and quantum computing, to solve Quadratic Unconstrained Binary Optimization (QUBO) problems. Simulations have been designed and implemented using Qiskit to evaluate algorithm performance under noiseless and noisy conditions.

(github.com/simonecolli/quantum-portfolio-optimization)

Ottimizzazioni garanti accademici

ASP, PYTHON

2024

Development of an automated system for assigning academic guarantors to university courses, adhering to complex ministerial regulations. The project includes the creation of a data preprocessing pipeline and the implementation of a system based on Answer Set Programming (ASP) for dynamic optimization of resource allocation. The system ensures scalability across various datasets, reduces reliance on external staff, and meets institutional and regulatory requirements. (github.com/simonecolli/ottimizzazione-garanti-academicci)

PanDelos-plus

C++, PYTHON, BASH

February 2024 - June 2024

A C++ based, parallelized revision of PanDelos (github.com/InfOmics/PanDelos) software for pan-genome content discovery.

(github.com/simonecolli/PanDelos-plus)

Deep Neural Network Library

C++, PYTHON

From May 2024

A flexible, modular, easy-to-use, and high-performance C++ library for building, training, and using deep neural networks.

(github.com/unipr-org/deep-neural-network)

MazeProject

HTML, CSS, JS

From July 2022

A user-friendly web-based application developed for the European Research's Night, aimed at making the understanding of graph-based search algorithms more interesting, easier, and enjoyable. (github.com/simonecolli/MazeProject)

Certificates

2022 **Responsive Web Design**, FreeCodeCamp

now **Data Visualization**, FreeCodeCamp

Conferences

BBCC-Meetings

Napoli

BBCC2024

27-29 novembre 2024

Oral presentation of PanDelos-plus.

Technical Skills

Main programming languages

C++, Python, Java, JavaScript, HTML, CSS, Bash

Other programming languages

C, C#, Objective-C, PHP, LaTeX, Markdown, StrictDoc, Matlab, YAML

Databases

MySQL, PostgreSQL

Operating systems

Windows 8/10/11, Windows Server 2019, Linux, macOS

Development environments

Visual Studio Code, Eclipse, Android Studio, Xcode, Jupyter Notebook, Google Colab

Frameworks and tools

React, Vue.js, Next.js, Laravel, Flask, JQuery, Bootstrap, Tailwind CSS, nginx, Apache Web Server, Git, Docker, Kubernetes, Oracle VirtualBox, Masterwood, AutoCAD

Creative software

Microsoft Office, Darktable, Adobe Lightroom Classic, Adobe Photoshop, Adobe Illustrator, Adobe Premiere Pro, DaVinci Resolve, GIMP, Audacity

Soft skills

Problem solving, Critical thinking, Time management, Organization, Teamwork, Collaboration, Creativity, Adaptability, Stress management, Self-development, Resilience, Patience, Punctuality, Perseverance

Languages

Italian (Native), English (Intermediate)