

Niccolò Cavallini

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Education

Swiss Federal Institute of Technology Zurich (ETHZ) *Feb 2026 (starting)*

MSc in Computer Science

Swiss Federal Institute of Technology Zurich (ETHZ) *Sept 2021 – Jan 2026*

BSc in Computer Science

- **Bachelor's Thesis:** *Expert-in-the-Loop Visual Debugging for Structured Information Extraction from Free Trade Agreements* — **Grade: 5.75 / 6.00**

Built an interactive visual debugging tool enabling domain experts to inspect and correct ML-based extraction of structured data (rules of origin, tariff concessions) from free trade agreement PDFs. Combined document parsing, information extraction, and a React-based UI for iterative expert feedback.

- **Electives:** Fundamentals of Web Engineering, Information Technology in Practice
- **Core Courses:** Computer Systems, Rigorous Software Engineering, Human Computer Interaction, Visual Computing, Introduction to Machine Learning

Liceo Cantonale di Bellinzona *Sept 2017 – June 2021*

High school curriculum in Physics and Applications of Mathematics

Experience


Owner & Full-Stack Developer *Zurich*

PCN Group di Niccolò Cavallini


May 2021 – Present

- Sole proprietor providing end-to-end IT services: requirements gathering, architecture, development, deployment, and ongoing maintenance for small businesses across Switzerland.
- **Fashion Boutique** — Designed and built a full-stack management platform in PHP: client registry, inventory and warehouse management, POS integration (receipt printing, cash drawer control), employee time tracking with detailed reports, loyalty program with gift cards and discount tiers, and customizable sales analytics dashboards.
- **Vacation Rental Property** — Developed a booking and client management system with integration into major booking platforms, automated email notifications for guests and owners, and Swiss QR-Invoice generation for billing. Included fiscal reporting and occupancy statistics.
- **Restaurant** — Built a responsive website with a CMS-backed menu system allowing the owner to update menus and a photo gallery independently.
- **Medical Practice** — Migrated sensitive health data (classified as *requiring special protection* under Swiss nFADP/nLPD), set up network infrastructure, connected medical equipment, and maintained a client-server practice management system.

Projects

Expert-in-the-Loop Visual Debugging for Structured Information Ex- [click here](#) 
traction

- Built an interactive visual debugging tool enabling domain experts to inspect and correct ML-based extraction of structured data (rules of origin, tariff concessions) from free trade agreement PDFs. Combined document parsing, information extraction, and a React-based UI for iterative expert feedback.
- Tools Used: Python, React, TypeScript

Find Your Zurich Neighborhood [click here](#) 

- Developed a data-driven web app that recommends Zurich neighborhoods based on user lifestyle preferences (commute time, green spaces, nightlife, cost of living), aimed at helping newcomers navigate the city.
- Tools Used: TypeScript, PostgreSQL, Node.js

Retail Management Platform

[click here](#) 

- Built a complete retail management web application handling client records, inventory, point-of-sale with hardware integration (receipt printers, cash drawers), employee hour tracking, loyalty programs, and sales analytics. Fully responsive and deployed in production.
- Tools Used: PHP, JavaScript, Node.js, MySQL

Technologies

Languages: Java, PHP, Python, JavaScript/TypeScript, SQL, Visual Basic .NET, C (basic), C++ (basic)

Frameworks & Libraries: React, Node.js, FastAPI, WordPress

Databases: PostgreSQL, MySQL, Redis

Tools & Infrastructure: Git, Docker, Linux, Microsoft Intune, Networking (LAN/WLAN setup)

Languages

Italian: Native

English: Fluent

German: Intermediate

French: Basic