Alessandro **Pezzato**

· Independent software consultant ·

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"Learn. Code. Teach. Repeat."

Summary

With 19+ years of **software development** experience and a passion for programming since age 11, I bring extensive expertise. Specializing in **C++** since 2007 and **Rust** since 2018, I consistently deliver high-quality solutions. I offer consulting, training, and software development services in **Rust**, **C**, **C++**, **Linux**, and technologies for **embedded** and IoT systems. From 2014 to September 2024, I worked as an **independent software consultant**, taking on various projects. As a **trainer**, I've organized and conducted numerous Rust and C++ **courses**, sharing best practices and methodologies. Since September 2024, I have been working as a **Senior Software Engineer** at **StandardAI**, focusing primarily on **Rust**.

Work Experience (employee)

Standard AI · Senior Software Engineer, Rust   *San Francisco, California (Remote) (Sep 2024 - Present)*

- Maintained and enhanced tracking software written in Rust for monitoring people's movement within large retail stores, utilizing AI for person recognition.
- Implemented new features and tracking algorithms to optimize hardware and cloud costs.
- Maintained company core libraries in Rustassisted
- Assisted less experienced colleagues in solving their issues with the language.
- Mentored new colleagues with little or no experience in Rust.
- Conducted code reviews
- Integrated ML models into Rust software.
- Actively participated in discussions on the architecture of new software.
- Achieved a significant reduction in costs by completing a new tracking software that requires only one-third of the cameras compared to the previous version.

Work Experience (as independent consultant)

Qascom S.r.l. · Trainer   *Bassano del Grappa, Italy (2021, 2024)*

- Organized a 45 hours C++ course for 20 developers working on GNSS and space cybersecurity systems (2021)
- Organized two courses of advanced C++, for a total of 25 developers and 120 hours of lessons. (2024)

Bluewind S.r.l. · Developer, Consultant, Trainer   *Castelfranco Veneto, Italy (2018 - 2024)*

- Implemented drivers and firmware for safety critical embedded systems for automotive, marine and industrial products. C, C++, Rust.
- Organized C++ and Rust courses for about ten developers.
- Active member in a working group dedicated to create an open-source peripheral access crate for Infineon microcontrollers. Developed low level Rust drivers for Infineon TC37x microcontrollers. (2023 - 2024)

Fracarro Radioindustrie S.r.l. · Developer, Consultant, Trainer   *Castelfranco Veneto, Italy (2023 - 2024)*

- Organized an 80 hours Advanced C++ course for 4 developers.
- Worked on the modernization of a C codebase, converting some parts to C++ and introducing unit tests, CI/CD and static analysis tools.

Fiam Utensili Pneumatici S.p.A. · Consultant   *Vicenza, Italy (2023)*

- I conducted code reviews in various C and C++ projects (PIC, STM32, Windows) to assess their needs for bug fixes, documentation, and maintainability. To facilitate the smooth transition of a resigning team member, I provided consultancy services to help documenting the code.

Texa S.p.A. · Developer, Consultant, Trainer   *Monastier, Italy (2014 - 2023)*

- Developed C++ communication libraries (both embedded and server side) for an IoT automotive project to handle real-time remote diagnostic data of about 500 thousands vehicles.
- Organized multiple C++ courses between 2015 and 2022, a total of about 150 hours and 40 developers.

Spring Tech Innovations S.r.l. · Developer, Consultant   *Limena, Italy (2022)*

- Developed C++ software for an home automation and alarm system. Qt, LVGL, Linux.

Ferrous Systems GmbH · Developer   *Berlin, Germany (2022)*

- Developed Rust compiler tests for Ferrocene qualified toolchain.

MERMEC S.p.A. · Developer, Consultant   *Morgano, Italy (2020 - 2022)*

- Developed C++ and C# software for surface inspection of steel products.

ASTRA Yacht S.r.l. · Developer, Consultant   *Monfalcone, Italy (2015 - 2022)*
- Developed C++ software for sailboat real-time performance analysis. FreeRTOS, Azure RTOS, Linux, Qt.

Salvagnini S.p.A. · Trainer   *Sarego, Italy (2019 - 2020)*
- Organized a course on modern C++ and Test Driven Development, for a total of 24 hours and 10 developers.
- Organized a course on Test Driven Development for C and C++, for a total of 24 hours and 10 developers.

Ubilot S.r.l. · Developer, Consultant   *Bassano del Grappa, Italy (2019)*
- Developed C++ and C# software. I developed an high-reliability embedded database built on top of a F-RAM module with some kB of storage.

Adatta S.r.l. · Trainer   *Padova, Italy (2018)*
- Coached a junior C++ developer.

Carel S.p.A. · Developer, Consultant   *Brugine, Italy (2014 - 2018)*
- Developed C++ software and C Linux drivers for HVAC products. Buildroot, Yocto, Linux.

GM Trading srls · Developer   *Borgoricco, Italy (2014 - 2018)*
- Developed UI of an e-commerce website (JavaScript)

Work Experience (employee)

Vimage S.r.l. · Lead Software Developer   *Mirano, Italy (Jul 2007 - Jul 2014)*
- Coordinated and mentored the R&D team of up to 5 developers.
- Worked on different projects for museums, stores and events. Most projects involved interactive projections, touchscreens, touchless sensors and computer vision.
- Developed company's core C++ libraries for 2d and 3d games. (OGRE, Chipmunk, Open Dynamics Engine)
- Developed company's core C++ libraries for computer vision. (OpenCV, Point Cloud Library)
- Developed a company Linux distribution based on Gentoo Linux.

Nasch S.r.l. · Web Developer   *Padova, Italy (Oct 2005 - Apr 2007)*
- Developed local companies websites (PHP and JavaScript).
- Developed a web tv platform (Flash and ActionScript 3)

Education

Liceo Scientifico E. Majorana · Scientific high school diploma with a specialization in the National Informatics Plan (P.N.I.)   *Mirano, Italy (2001 - 2005)*

Università di Padova · Mechanical Engineering (Incomplete)   *Padua, Italy (2005 - 2006)*

Università Ca' Foscari Venezia · Business Administration (Incomplete)   *Venice, Italy (2006 - 2008)*

Skills

Programming tools and techniques	Git, gdb, Docker, NeoVim, CLion, TDD, CI, GitLab, GitHub, Agile, Design Patterns
Programming Languages	C++, C, Rust, TypeScript, Python, Haskell, C#, Bash
Languages	Italian, English

Non-profit

CodingGym · Trainer   *www.coding-gym.org (Feb. 2018 - Present)*
- Conducted monthly free workshops, in Padova and Castelfranco Veneto, assisting over 100 participants
- Designed exercises covering algorithms, data structures, and problem-solving for monthly workshops

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