

PERSONAL INFORMATION

Marco Carosio



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🌐 <https://www.marcocarosio.it>

🐙 <https://github.com/mcarosio80>

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Gender Male | Date of birth 9 January 1980 | Nationality Italian

JOB APPLIED FOR

Software developer, IT specialist

WORK EXPERIENCE

April 2024 – Present

Autonomous driving / Software developer (full remote)

Luxoft Italy S.r.l., <https://www.luxoft.com/>
Via Nizza, 262, 10126 Torino (TO), Italy

Development and improvement of software sensor models for test/verification of autonomous driving features on behalf of a main German automotive OEM. The activities are run inside the Agile framework in a international distributed engineering team.

The sensor models are designed to replicate the behaviour of real sensors mounted on self-driving test cars. Their features are tested on a simulation platform against real world scenarios and the outcome analysed to verify the expected behaviour of the virtual EGO vehicle.

Responsibilities:

- Team work to analyse the issues/requests for new features inserted into the ticketing platform (Jira)
- Design and implementation of new features to fit the real sensor behaviour in predetermined scenarios
- Coordination with the stake holders to discuss and verify the proposed solutions
- Build and prepare push requests to the main branch of development
- Traceability of the progress
- Code reviews

Technology and Skills: Atlassian Jira, C++, Linux, Git, GitHub, Bazel, Autonomous driving, 3D math for computer graphics

Business or sector Automotive

November 2022 – April 2024

Embedded Systems / Software developer (full remote)

Luxoft Italy S.r.l., <https://www.luxoft.com/>
Via Nizza, 262, 10126 Torino (TO), Italy

Cooperation with Mercedes-Benz team (MBition team) to perform continuous integration of new features and fixes to the in-vehicle infotainment system codebase, with focus on the connectivity components. The activities are run inside the Agile framework in a international distributed engineering team.

These software modules were part of the core system and provided the upper layers with basic network and wifi services, diagnostics information and monitoring of the connectivity to the backend systems. The software components were written in C++ for embedded Linux platform and integrated into the final Linux image through bitbake and Yocto. The development process was performed on a Linux desktop with Visual Studio Code integrated to Git / GitLab. The integration of changes were carried out through merge requests according to the established workflow.

Responsibilities:

- Team work to analyse the issues/requests for new features loaded into the ticketing platform (Jira)
- Implementation inside a docker environment of the required changes to the software components for b2b and b2c connectivity inside a top-of-the-range car model
- Perform the developer tests to verify the changes introduced
- Coordination with test engineers to perform in-car check-up of software components
- Build and merge the solution into the master branch
- Traceability of the progress
- Code reviews
- Changes to the AppArmor settings
- Update of the bitbake recipes and integration of the software components into the final Linux image
- Setup of the Jenkins pipeline running the Yocto tools

Technology and Skills: Adaptive AUTOSAR, Agile Methodology, AppArmor, Atlassian Jira, Bitbake build system, C++, Classic AUTOSAR, Dbus, DLT, Docker, Embedded Linux, Git, GitLab, Jenkins Pipeline, Scrum framework, Yocto

Business or sector Automotive

December 2019 – November 2022

Market Risk monitoring / Software developer

IF Informatica S.r.l., <https://www.ifinformatica.it/>

Via del Lavoro, 8, 15048 Valenza (AL), Italy

Development and maintenance of the core business logic for capital requirements evaluation and post trading surveillance.

The batch procedures were designed to run on the DBMS server and provided evaluation data at different level of drill down. The evaluation was performed according to the Fundamental Review of the Trading Book (FRTB) specification provided by Basel Committee on Banking Supervision. The procedure was capable of generating an Excel report containing the output data produced according to the EBA reporting layout.

Responsibilities:

- Development and maintenance of the server side procedures
- Database development of risk factors evaluation
- Rollout of the new features
- Analysis of the risk factors
- Mentoring on risk management procedures for newcomers

Technology and Skills: Commodities, Complex Derivatives, Exchange Traded Derivatives, Foreign Exchange Derivatives, Microsoft SQL Server, Python3, SQL, TSQL Programming

Business or sector Banks and securities brokerage companies

May 2016 – December 2019

Autonomous trading / Software developer

IF Informatica S.r.l., <https://www.ifinformatica.it/>

Via del Lavoro, 8, 15048 Valenza (AL), Italy

Development and maintenance of trading modules interfaced to the main bond and stock trading platforms.

The server modules written in C++ on Windows Server environment performed autonomous quotation duties according to the trader strategy defined in a LUA script running server side.

Responsibilities:

- Maintenance of the core modules
- Certification of the new features
- First and second level support to the bank IT staff and traders
- Post trading surveillance

Technology and Skills: Algorithmic Trading, Bonds, C++, Elastic Kibana/Grafana, Equity Futures, Financial Market Infrastructure (FMI), Foreign Exchange Derivatives, InfluxDB, Lua, Market Making, Microsoft SQL Server, Microsoft Visual C/C++, Microsoft Windows, SQL, SQLite, Statistical Analysis and Time Series Forecasting, TSQL Programming

Business or sector Banks and securities brokerage companies

March 2009 – April 2016 **Back Office / Software developer**

IF Informatica S.r.l., <https://www.ifinformatica.it/>
Via del Lavoro, 8, 15048 Valenza (AL), Italy

Development of a back office solution integrated to the existing in-house developed trading platform, with focus on the backend components of the system.

The back office system provided overnight evaluation of the margin exposure for both bank and clients accounts at a portfolio level. A network of core services provided the evaluation of the margin requirements according to the main derivative markets specifications (TIMS for the Italian market, EUREX Prisma, SPAN for CME Globex, Australian Stock Exchange and far east). The monitoring subsystem interacted with the core services to also provide intraday evaluations and online simulations. The services were also provided with HTTPS and Rest interfaces for ease of integration with third party components.

Responsibilities:

- Development, test and maintenance of the core servers
- Database development of batch procedures to accomplish the back office daily operations
- First and second level support to the bank IT staff and middle management
- Setup and rollout of new features
- Margin algorithms analysis

Technology and Skills: C#, C++, COM add-ins for Office, EUREX, Exchange Traded Derivatives, Financial Market Infrastructure (FMI), HTTP (Hypertext Transfer Protocol), HTTPS, Margin Analysis, Microsoft SQL Server, Microsoft Visual C/C++, Microsoft Windows, Portfolio Analysis, Prisma, Rest API Testing, SQL, SQLite, TSQL Programming, Value at Risk

Business or sector Banks and securities brokerage companies

September 2005 – March 2009 **Risk Management / Software developer**

IF Informatica S.r.l., <https://www.ifinformatica.it/>
Via del Lavoro, 8, 15048 Valenza (AL), Italy

Development of a Risk Management service aimed to monitor the financial risk exposure of a bank clients portfolios.

The system was designed to be autonomous in retrieving public dataset from the financial markets, Clearing Houses and other public data sources. The service consisted of multiple servers written in C++ on Windows platform each providing real time evaluation of a specific set of risk factors, like financial margin exposure, financial leverage, Margin Call, Profit & Loss for Exchanged Traded Derivatives. The evaluation results were collected by the system entry point, the Risk Monitor service, to whom a client application was connected. The client was written in C# 2.0 and provided the Risk Management users with real time alerts, reports (SAP Crystal Reports) and analytical views on their monitored accounts.

Responsibilities:

- Development, test and maintenance of the core servers
- Development, test and maintenance of the client application
- Database development of data loading procedure
- Monitoring of anomalies
- First and second level assistance to the bank IT staff and middle management
- Setup and rollout of new features

Technology and Skills: Asset Pricing, C#, C++, Volatility Surfaces, Derivative Operations, Exchange Traded Derivatives, Financial Market Infrastructure (FMI), Futures Margining, Margin Calls, Microsoft SQL Server, Microsoft Visual C/C++, Microsoft Windows, Microsoft Windows Installer (MSI), OTC Structured Products, Pricing, SAP Crystal Reports, SQL, TSQL Programming

Business or sector Banks and securities brokerage companies

June 2005 – September 2005 **Software developer**

Infolearning S.r.l., <https://www.infolearning.net/>
Via Bellini, 25G, 15121 Alessandria (AL), Italy

Development of a software simulation system aimed to train medical staff in disaster medicine scenarios (in collaboration with Medicine Department of Università degli Studi del Piemonte Orientale “A. Avogadro”).

The system was designed with a Graphical User Interface representing a hospital triage room. The GUI reacted to the server simulation tier presenting the final user, the trainee, with varied situations requiring time-critical decision making generated according to statistical models.

- Development of server-side modules in Java

Technology and Skills: Java, Linux, Discrete event simulators, Subversion Control system

Business or sector E-learning

September 2004 – June 2005 **System and network administration**

Political Science department of Università degli Studi del Piemonte Orientale “A. Avogadro”, <https://www.uniupo.it/>
Via Cavour, 84, 15121 Alessandria (AL), Italy

Administration of software installed on the local University network.

- Collaborated with the internal staff to provide technical support to students and lecturers
- First level assistance
- Internal help desk

Business or sector IT, network management, users support

EDUCATION AND TRAINING

2002–2005 **Master degree in computing**

EQF 7

Università degli Studi del Piemonte Orientale “A. Avogadro”, <https://www.uniupo.it/>
Viale Teresa Michel, 11, 15121 Alessandria (AL), Italy

- Artificial intelligence, expert systems
- Distributed systems
- Cryptography and network security
- Stochastic models
- Logic programming

September 2003 – June 2004 **ERASMUS Programme**

University of Aberdeen, <https://www.abdn.ac.uk/>
Aberdeen AB24 3FX, UK

- 3D math for computer graphics
- Natural language processing
- Artificial intelligence
- English

1999 – 2002 **Bachelor degree**

Università degli Studi del Piemonte Orientale “A. Avogadro”, <https://www.uniupo.it/>
Viale Teresa Michel, 11, 15121 Alessandria (AL), Italy

- Programming, OOP, software engineering
- Operating systems
- Computer networks
- Databases
- Algorithms and data structures

1994 – 1999 **High School Diploma in Computing**

Istituto tecnico industriale “A. Volta”, <https://istitutovolta.edu.it/>
Spalto Marengo, 42, 15121 Alessandria (AL), Italy

- Computing and programming
- Electronics and information transmission systems
- Computer networks

PERSONAL SKILLS

Mother tongue Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
C1 Advanced (CAE)					

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills Good communication and interpersonal skills gained during first level help desk/assistance to IT staff and bank middle management personnel

- Empathy and listening skills gained during 10+ years in voluntary work contexts
- High cultural differences understanding matured working in a multicultural working environment

Organisational / managerial skills

- Team working
- Agile project management
- SCRUM framework
- Kanban methodology
- ASPICE/V-Model evaluation standard for OEM requirements
- Autonomous in design choices
- Planning, timing and definition of business requirements to meet the goals
- Adaptation and flexibility gained during the ERASMUS Programme from 2003 to 2004 and during the following years of professional career

Personal skills

High sensitivity and consciousness toward environmental issues, sustainability and social equality developed inside ASPO Italy.
 Great awareness of diversity and inclusion matured working in a varied, multicultural and international professional environment.

- Professional skills**
- Software development in C/C++
 - Standart Template Library and Modern C++
 - Git/GitLab
 - CMake build system
 - Docker
 - Unit test integration inside the development pipeline (CTest/GMock, catch2 library)
 - Jenkins build server/pipeline
 - Linux environment / Embedded Linux systems
 - Dbus interprocess communication system
 - Netlink networking information library
 - Yocto project / bitbake
 - AppArmor security system
 - DLT logging system
 - Project/development of software solutions based on requisites
 - Evaluation of technical choices based on the final user experience
 - Main algorithms for financial margins evaluation and derivative pricing
 - Financial derivative instruments and commodities
 - Native protocols to financial markets
 - Microsoft development environments (Visual Studio, Visual Studio Code)
 - Windows systems
 - Relational DBMS, Microsoft SQL Server, SQLite
 - T-SQL Programming
 - InfluxDB
 - Classic / Adaptive AUTOSAR
 - Agile Methodology
 - Atlassian Jira
 - Qt5 user interface library
 - Scripting: Python, LUA, JavaScript
 - Python3
 - C#
 - COM add-ins for Office
 - SAP Crystal Reports
 - HTTPS and Rest API interface

Digital competences

SELF-ASSESSMENT				
Information Processing	Communication	Content creation	Safety	Problem solving
Independent user	Independent user	Independent user	Independent user	Independent user

[Digital competences - Self-assessment grid](#)

- Computer skills**
- Good command of office automation suite (word processor, spreadsheet, presentation tools) gained in professional contexts
 - Good command of web-based content management systems (CMS, Joomla) gained as web administrator (amateur level)
 - Text formatting with \LaTeX

Other skills

Music: electric bass
 3D math / linear algebra
 Astronomy

Driving licence A, B

Personal data I hereby authorize the use of my personal data in accordance to the GDPR 679/16 - "European regulation on the protection of personal data".

Date: 16/05/2024

Signature: Marco Carosio