

Alberto Marnetto

Senior Software Engineer, C++ / Python

Contacts



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github.com/AlbertoMarnetto

Main Languages

- C++ (STL, Boost, Abseil, template metaprogramming, Qt)
- Python
- Linux scripting (bash)

Other Languages

- C
- Java
- Matlab

Complementary Skills

- Embedded Linux
- Wireshark
- gdb
- Docker
- CMake
- CI: Jenkins, GitLab Pipelines
- Protocols: TCP/IP, UDP, CAN, Modbus, NMEA
- Qt Framework
- Currently learning PyTorch (Completed Coursera's Deep Learning Specialization)

Main Work Experiences

- **Senior Software Engineer** at **MayStreet** (2023 – present)
Development of low-latency C++ code to process stock exchange data. Focus on performance and correctness, with extensive use of advanced techniques (especially template metaprogramming)
 - Creation of new market data feed handlers, in collaboration with the business analysts. E.g. created a generator to produce a FAST FIX parser from the template definitions
 - Maintenance and improvement of existing code (profiling, performance enhancements, protocol updates, etc.)
 - Troubleshooting of issues raised by customers (usually other expert C++ engineers)
- **Senior Software Engineer** at **indurad** (2016 – 2022)
Firmware development in C++ for embedded Linux systems. Worked in particular on:
 - Algorithms to process GPS sensor data for vehicle and machine positioning
 - Parsers for low-level communication protocols
 - Apps for 3D data visualization (Qt Framework)
 - Embedded Linux scripting (bash, Python)
 - Infrastructure to improve the code quality: test suites, clang-format, git hooks, Jenkins, GitLab Pipelines
- **R&D Engineer, Combustion Engines** at **FEV** and **Fiat** (2009 – 2016)
Experimental activities at the engine test benches
 - Scheduling, post-processing, and reporting of the experiments
 - Development of automatization procedures

Academia

- **Double degree in M.Sc., Mathematical Engineering** at Politecnico di Torino and Politecnico di Milano (2008)
Final mark 110/110 and commendation.
Completed the "ASP" program for high-performing students.
- **B.Sc., Applied Mathematics** at Politecnico di Torino (2006)
Final mark 110/110 and commendation.
- **Published articles** on "IEEE transactions on automatic control", "Journal of electronic materials", "Optical and quantum electronics" and "Journal of Applied Physics".

Selected side projects

- **multidim** : C++ utilities for multidimensional containers, with heavy use of metaprogramming
github.com/AlbertoMarnetto/multidim
- **Namensmeister** : educational app for Android
play.google.com/store/apps/details?id=marnetto.namensmeister
- **Tweaking Stunt Island**, a reverse-engineering project.
Hit #1 on Hacker News on 03.12.2024
marnetto.net/2024/11/20/tweaking-stunt-island