

Roland Coeurjoly, MSc.

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PROFILE

Software Engineer with critical software and hardware development experience in Finance, Military, Aerospace, Medical and Industrial sectors, able to work in multidisciplinary and international teams.

ATTRIBUTES

- Initiative and problem solving expertise.
- Highly organized.
- Quick learner.

SKILLS

- Most comfortable with: C/C++, [Nix](#), Python, Bash, GNU/Linux, git, cmake, gdb, TDD, [BDD](#), [Coq](#), [doctest](#), unittest, MySQL, [Verilog](#), LaTeX, MongoDB.
- Have worked with: VHDL, [Dafny](#).

HISTORY

- Software Engineer, [BME](#) (acquired by [SIX](#)) (Las Rozas, Madrid) - July 2019 to present
 - Design, development, testing and support of low latency trading applications, including OMS (Order Management System), risk management, portfolio management and market access drivers.
Technologies used: multi-threaded C++, [FIX](#), [BDD](#), TDD, STL, cmake, gdb, doctest, CI, git, [rr](#).
 - Propose, design and implement [BDD](#) workflow as a development methodology.
Achievements: brought onboard team (PO, QA and devs), implemented workflow in several market access drivers.
Skills used: multi stakeholder technical presentations and discussions, DevOps.
Technologies used: C++, cmake, Docker, gitlab.
 - Propose, design and implement automatic tool to migrate to Google logging library.
Achievements: Migration of 10k+ LOC from ACE to [glog](#), reducing technical debt.

Technologies used: Python, regex, [unittest](#), black-box testing, C++.

- Electronics Engineer, [GMV](#) (Tres Cantos, Madrid) - November 2018 to May 2019

- Design and prototype automatic tool for testing motor driver PBA used in military avionics.

Achievements: Drastically improve coverage compared to manual test procedure.

Technologies used: C/C++, Mixed signal circuit design, Altium.

- Architect, design, implement and operate automatic functional verification environment used in qualification tests of hybrid ([GNSS](#) and [IMU](#)) military navigation product.

Achievements: Successful operation during vibration and environmental tests.

Technologies used: Embedded Linux, Python, bash, CAN, TCP/IP, PyQt, multithreading.

- Electronics Engineer, [SEDECAL](#) (Algete, Madrid) - September 2015 to November 2018

- Propose, design, and implement automatic tool for testing docking station for X-ray detectors.

Achievements: Design weaknesses found, helping improve product reliability.

Technologies used: C/C++, Hardware design.

- Design Interface PBA used in X-ray generators.

Achievements: Improvements in reliability and serviceability.

Technologies used: Altium.

- Automate product tree generation for X-ray systems.

Achievements: Process streamlined, improving reliability and speed.

Technologies used: VBA.

- Automate migration of electronic components data-sheets.

Achievements: Reduce time of implementation 95% (from 200 to 10 hours).

Technologies used: Bash.

- Laboratory engineer, GE Power Controls (Móstoles, Madrid) - October 2013 to June 2015

- Support Transfer of Work (TOW) process of electronic modules for contactors used in the railroad industry.

Achievements: Propose and implement solution to improve product life. Bronze award for solving critical component shortages.

EDUCATION

- [Inter-University Master's Degree in Formal Methods in Computer Science and Engineering, UCM-UPM-UAM](#) - September 2020 to July 2022
 - **Electives**
Formal Methods for Testing, Formal Model-Driven Software Development, Computer-Aided Program Verification, Design of Correct-by-Construction Systems, Quantum Computing
 - **Thesis:** DDC: a declarative debugger for C++
Technologies used: Coq, Nix, C++, Python, GDB, [rr](#)
- [Bachelor's Degree in Industrial Electronics and Automation, UC3M](#) - 2009 to 2015
 - **Electives:**
Digital integrated circuit design (VHDL), Power electronic systems, Analog electronics II
 - **Thesis** based on my work at GE Power Controls
- Exchange student with scholarship, [RMIT](#) (Melbourne, Australia) - July 2012 to December 2012
 - **Electives:**
Computer architecture, Network Technologies, English language and Australian culture

NATURAL LANGUAGES

English: full professional proficiency

Spanish: native fluency

French, Mandarin Chinese: advanced proficiency

Willing to learn others.

HOBBIES AND INTERESTS

I love reading and traveling. The highlights of my reading can be found [here](#).