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++, Coq, Nix, Python, Bash, GNU/Linux, TDD, doctest, unittest, MySQL, MongoDB, git, cmake, gdb, Verilog, LaTex
- Have worked with: BDD, VHDL, Dafny

History

- Software Engineer, SIX (Las Rozas, Madrid) - July 2019 to present
  - As part of a team of developers, I am involved in the design of OMS (Order Management System) components, including risk management, portfolio management and market access drivers
    Technologies used: C++, FIX, TDD, STL, cmake, gdb, doctest, CI, git
  - 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 proce-

dure
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, Quan-

tum 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

Spanish, French: native fluency
English, Mandarin Chinese: full professional proficiency

Hobbies and Interests

I love reading and traveling. The highlights of my reading can be found here.