Hugo Arguinariz

C++ Software Engineer

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Senior C++ Software Engineer

Rockwell Automation

3 years, Nov 2021 – Present, **Czech Republic**

- Multithreaded C++17 code for Safety Critical applications (SIL2).
- Spearheaded migration of big legacy codebase to modern C++17.
- Redesigned the whole system from scratch, wrote design documents and test plans.
- Followed the whole software lifecycle from initial planning and requirement gathering to final delivery to customers and troubleshooting issues after deployment.
- As a senior, participated in all code reviews for the whole team and mentored junior engineers.
- Implemented Unit Tests in Gtest/Gmock and system tests in Python.

C++ Software Engineer for Safety Critical Systems

Siemens

2 years 9 months, Feb 2018 – Oct 2021, **Czech Republic**

- C++ Software on ARM processors running Linux.
- SIL4 safety critical products / Secure Software Development in systems where a single bug could mean human loss of life.
- Performed mentoring and code reviews of junior engineers.
- Collaborated with system architects and testers to improve Software Architecture.
- Collaborated with external auditors to ensure software compliance to safety and legal requirements.

Senior Software Engineer

Eaton European Innovation Center

2 years, Jan 2017 – Jan 2019, **Czech Republic**

- Designed custom C and assembly HAL (Hardware Abstraction Layers) and Device Drivers for a custom chip (ASIC) that didn't have any existing operating system or firmware.
- Designed application-level software (C++) for smart industrial communication systems (Industry 4.0)
- Tested and validated software on target hardware.
- Helped hardware teams to bring PCBs to life by writing relevant software.
- Guided interns on their project to create a test system in python.

Electronics Engineering Fellow

CERN

2 years, Jan 2015 – Dec 2016, **Switzerland**

- Designed and tested safety critical control electronics for the LHC particle accelerator.
- Developed C Firmware for those electronics.
- Developed VHDL for FPGA.
- Wrote technical specifications and documentation.
- Standby service (24/7 on call expert for control system failures).

Processor Architectures (Master Thesis)

European Space Agency

6 months, Sept 2013 – Feb 2014, **Netherlands**

- Modified the internal architecture of a microprocessor to add custom signal processing instructions.
- The instructions were optimized for satellite signal receivers.

TECHNICAL SKILLS

C++

- Modern C++
- Legacy C++ (C++98)
- CMake
- Doxygen
- GTest Unit Testing

Other technical skills

- Low Level Software (C, microcontrollers, OS fundamentals, assembly…)
- Rust programming language

Tools

- Version Control (git / GitHub)
- Agile/ SCRUM development
- UNIX/Linux environment
- Scripting Languages (Python) for testing and glue logic
- Continuous integration / Continuous deployment workflow

LANGUAGES

- **English:** Fluent (Certificate Cambridge CAE **C1**)
- **French:** Fluent (Certificate DALF **C1**)
- **Spanish:** Native
- **German:** Basic (Certificate Zertifikat Deutsch **B2**)
  Used to be intermediate, but forgot after not using it for very long
- **Czech** Conversational (Estimated around **B1**, but no official exam yet)

STUDIES

- 2007 - 2014 **Telecommunications engineering** (5 years degree), Public University of Navarre, Pamplona, Spain.
- 2011 - 2012 Exchange Student Tampere University of Technology, Tampere, Finland.