JAIRO RODRIGO MEJIA APONTE

Embedded Software Developer

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EXPERIENCE

Embedded Software Linux Developer

Belden Inc.

Since July 2023 — Frankfurt, Germany

Promoted from Junior in 18 months for outstanding performance. Developing embedded C++ software for next-generation wireless industrial routers (4G/5G, WiFi, GPS) targeting rail, autonomous driving, and fleet geolocation on a Yocto-based Linux platform.

- Co-designed and own the ModemManager D-Bus client in C++, managing cellular modem lifecycle and configuration via AT commands and QMI protocol on a Yocto-based Linux platform.
- Built an end-to-end whitebox testing framework based on Yocto's ptest strategy, validating the full communication path from NETCONF frontend through ZMQ to D-Bus backend on both QEMU and real hardware.
- Contributed to WiFi (AP, mesh, driver-level) and GPS (time synchronization, geolocation) subsystems.
- Mentored team during legacy product handoff.

M.Sc-Thesis: Design and test a configurable cache system

ESA Group - Technische Universität Darmstadt

November 2022 – July 2023 — Darmstadt, Germany

Implement and attach a configurable cache hierarchy to a RISC-V core using the Bluespec compiler to create the needed HDL code. Later on implement a verification tool based on Python for the HW design with QUESTA and cocotb. Finally, verify the implementation running some benchmarks and desired software in the implemented multi-core.

Researcher Engineer on 4G/5G cores for Open Networks

NTT Data

February 2020 – April 2021 — Bogotá, Colombia

Analysis, investigation, and development of Could-Native Linux-based software tools to integrate different open-source 5G and 4G cores with and without compliant 3GPP protocols.

Intern on R&D Department of RF Systems

National Instruments

April 2018 – January - 2019 — Dresden, Germany

Implementation of a digital control based on a SPI protocol using VHDL and LAbVIEW FPGA Programming to make the communication between a 4G RF SDR Device and external hardware. Finally, measure and verify the integrity of the created signal (Speed rate, input/output impedance) of the interface.

HARD SKILLS

C/C++ · Bash · Python · Yocto · cmake/make · VHDL · Verilog · Bluespec · Git · MySQL/SQL · Openstack · k8s · RISC-V Core · ARM Core Systems · STM32 HAL

LaTeX · Microsoft 365 · Windows · Linux · G Suite · Management Apps

SOFT SKILLS

Social skills · Public speaking · Visual and Verbal communication

Adaptability · Critical thinking · Desire to learn · Innovation

Decision-making · Project management · Inspiring people · Enthusiasm

Collaboration · Diversity awareness · Intercultural competence · Empathy

LANGUAGE SKILLS

Spanish ●●●●●

English ●●●●○

German ●●●●○

PROUD OF

Scholarship holder of FES for my Master
Since 01. January 2021

Exchange program in Germany
Oct 2017 – Jan 2019

One of the best graduates in my year
November 2019

EDUCATION BACKGROUND

M.Sc. Informationssystemtechnik

Technische Universität Darmstadt

Since November 2020

B.Sc. Electronic Engineering

Universidad Nacional de Colombia

February 2013 – November 2019

Exchange year. Elektrotechnik und Informationstechnik

Technische Universität Ilmenau - Germany

October 2017 – January 2019

REFERENCIAS

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