

Jose Amador Demeneghi

Embedded Software Engineer

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SUMMARY

- Embedded Software Engineer with 6+ years of experience developing production firmware for consumer electronics, IoT systems, and automotive diagnostics.
- Particularly interested in development tools and implementing CI/CD pipelines.

SKILLS

Embedded Systems

ARM Cortex-M, IAR, STM32, ESP32, Nordic, FreeRTOS, Zephyr, RTOS, IoT, Embedded Linux, Yocto, FPGA, VHDL, I2C, SPI, LoRaWAN, CAN

Programming

C, Python, MATLAB, LabView, CMake

Engineering

Embedded Systems, Simulink, DSP, Control Systems, Digital Communications, Software-Defined Radio, Model-Based Design, Electronics, PCB

Misc

Linux, Bash, Git, AWS, CAD, Docker, JIRA, Sonarqube

Automotive

UDS, Vector Suite, CANdelaStudio

CI/CD

Bamboo, Github Actions, Github, Bitbucket, Black Duck

WORK EXPERIENCE

Senior Embedded Software Engineer

Mar 2022 - Present

Dyson

Product Development

- Developed and maintained production firmware for ARM Cortex-M platforms used in multiple Dyson air purifiers, Airwrap, and audio products (C, Python, Embedded Systems, ARM Cortex, RTOS, FreeRTOS, IAR, STM32, I2C, SPI, Linux, CMake, Git)
- Contributed to the company-wide reusable codebase. (C, Python, Linux, CMake, Git)
- Designed reusable code components from stakeholder requirements resulting in comprehensive documentation for developers to use for implementing such component. (plantuml, git, doxygen, mkdocs)
- Implemented features and bug fixes within both FreeRTOS-based and Zephyr-based firmware stacks (FreeRTOS, Zephyr)

Improve Development Workflow

- Contributed to the off-target testing methodology for simulating the product application logic in the CI/CD pipeline. (Linux, Python, Bash, Docker, Bamboo)
- Streamlined development workflows by integrating automation tools and static code analysers, enhancing code quality and enabling faster iterations. (Docker, Git, Bash, Linux, Python, CMake, Sonarqube, Black Duck)
- Designed and implemented CI/CD pipelines, facilitating smoother deployments and ensuring consistent production readiness. (Bamboo, Bitbucket, Python)

Embedded Diagnostics Engineer

May 2021 - Feb 2022

John Deere - Agricultural, construction, and forestry machinery

- Validated and implemented UDS diagnostics for automotive ECUs across multiple product lines, ensuring compliance and enhancing product diagnostics capabilities. (UDS, Automotive, C)
- Provided cross-functional support to teams, guiding the implementation of UDS diagnostic services in ECUs for improved diagnostics. (Automotive, C, UDS)
- Developed internal tools to automate diagnostic testing workflows (Python, Bash, Git)

Embedded Software Engineer

Feb 2019 - May 2021

Greenapsis - Industrial IoT and Smart Cities

Smart Cities

- Acted as System Architect for an IoT deployment for remote data collection in smart cities. (On-Site Low Power LoRaWAN-based Embedded node + Embedded Linux transceivers + AWS Cloud Management) (Linux, AWS, LoRaWAN, Embedded Linux, IoT, Security, Embedded Systems, Python, ARM Cortex, STM32, RTOS)

Industrial IoT

- Developed and deployed software and electronic design for industrial IoT solutions on embedded platforms, improving remote access and monitoring capabilities based on LoRa and Zigbee. (Embedded Systems, AVR, Electronics, Embedded C, C, C++, LoRa)

Home Renewable Power

- Developed and deployed software, electronic, and PCB design for a power meter for renewable power sources. It included the device cloud connectivity and DSP algorithm for power measure. (Embedded Systems, AVR, Electronics, DSP, PCB, Embedded C, C, C++, CAD)

EDUCATION

MSc 5G Mobile Communications and Embedded Systems

Sep 2019 - Sep 2020

University of Sussex

Distinction award

B.S. Mechatronics Engineering

Aug 2013 - Dec 2018

Tecnológico de Monterrey

Minor in Control Systems

PUBLICATIONS AND PRESENTATIONS

Sub-6 GHz Beamforming with Low-Cost Software-Defined Radi...

2024

<https://doi.org/10.1016/j.phycom.2024.102391>