Jose Amador Demeneghi

Embedded Software Engineer
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SUMMARY

• MSc 5G Mobile Communications and Intelligent Embedded Systems.
• Passionate and fast-learner engineer who likes to tinker with different technologies.
• Particularly interested in development tools and implementing CI/CD pipelines.

SKILLS

Embedded
ARM Cortex, IAR, STM32, FreeRTOS, RTOS, IoT, Embedded Linux, Yocto, FPGA, VHDL, I2C, SPI, CAN

Programming
C, Python, C++, MATLAB, LabView, CMake

Engineering
Embedded Systems, Simulink, DSP, IQ Signals, 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

WORK EXPERIENCE

Senior Embedded Software Engineer — Mar 2022 - Present

Dyson

Product Development

- Contributed to firmware development, ensuring on-time production release for the air purifier and audio product range. (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)

Improve Development Workflow

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

- Introduced multiple static analysis tools and development tools for checking code quality and code style. (Bash, black, pylint, clang-format, clang-tidy, sonarqube)

Embedded Diagnostics Engineer May 2021 - Feb 2022

John Deere - Agricultural, construction, and forestry machinery

- Validated UDS standards 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 services in ECUs for improved diagnostics. (Automotive, C, UDS)
- Developed tools and best practices for enhancing the diagnostic workflow. (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 Intelligent 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

TRAININGS AND CERTIFICATIONS

Embedded Linux Using Yocto 2021

https://www.udemy.com/certificate/UC-104d85e5-d1f4-4b96-a0f5-af52bc7de298/

This certificate above verifies that José Augusto Amador Demeneghi successfully completed the course Embedded Linux Using Yocto Part 2 on 02/18/2021 as taught by Linux Trainer on Udemy. The certificate indicates the entire course was completed as validated by the student. The course duration represents the total video hours of the course at time of most recent completion. (Embedded Linux, Embedded Systems, Yocto)

C (Intermediate) 2020

https://www.hackerrank.com/certificates/84b16917a487

Hacker Rank C (Intermediate) certification (C)

AWARDS AND ACCOLADES

CENEVAL Distinction Award 2021

Given to the students with a grade in the top 1% of the CENEVAL exam for Mechatronics Engineering nationwide. (Embedded System, Control System, Signals and Systems, Machine Design, Electronics, Industrial Automation, Manufacturing Processes)

SIDE PROJECTS

Bare Metal Driver Development for STM32F401RE 2021

https://github.com/JoseAmador95/stm32f401re

Self-made drivers for all the components of the STM32F401RE (Peripherals, Cortex-M4 specific features, APIs). High-level support for the Nucleo F401 Arduino-like development board. IDE agnostic, only the source code + arm-none-eabi-gcc + makefile (+ openODC) are required. (C, ARM Cortex, STM32, Drivers)

User Equipment Tracking Beamforming Using a MIMO SDR 2020

https://github.com/JoseAmador95/UoS_Beamforming

Repository for the models and code used in "UE Tracking Beamforming using a MIMO Software-Defined Radio" MSc project for the course 5G Mobile Communications and Intelligent Embedded Systems at the University of Sussex. (Digital Communications, 5G, DSP, IQ Signals, MATLAB, Simulink, Signals and Systems, Software-Defined Radio, CAD)