

Yann CARDAILLAC

Embedded Linux Engineer

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8+ years experience

0669909858

Technical Resume

Based in Nantes



Education :

Engineer in Computer Science and Electronic of Embedded System @**Polytech Sorbonne** (Paris, France)

Languages : French (mother tongue), English (fluent)

In few words :

Embedded Linux Integrator, Embedded DevOps, Trainer, Teacher, Curious, Autonomous, always up for a Challenge

Experiences:

Embedded Linux Engineer:

Contractor @**Esme Solutions** : **Embedded Linux Engineer**

05/2023 – Today

Mortagne sur Sèvre (France)

Project In charge of the Embedded Linux BSP and test benches for industrial IOT

- Yocto upgrade (dunfell -> kirkstone -> scarthgap)
- Multi board yocto BSP management
- Development of tests for end of production
- Development and Integration of test benches
- IOT middleware development in TDD, from proprietary protocols to MQTT
- Tests and quality maintenance
- POC on VPNs in an IOT context
- CI/CD for python projects

Hardware : IMX8, IMX93, ATSAMA5

Software : C++, C, Shell, python

Tools : Yocto, Git, Docker, Cunit, gtest, pytest, poetry

Contractor @**Eolane** : **Embedded Linux Engineer**

10/2021 – 05/2023

Nantes (France)

Project In charge of the Embedded Linux BSP on an automotive project

- Yocto recipes integration
- Yocto CI/CD to allow customer to download prebuilt images
- Yocto update from Sumo to Dunfell (Uboot, Kernel)
- Development of custom software in C
- Automatic unit testing in C
- Integration of multiboot in Uboot
- Integration of a new chip from IMX6s to IMX6dual

Also in charge of minors projects such as:

- Python automatic electronic routing software for custom boards based on excel board description
- Python automatic unit testing and integration testing
- IMX8M mini peripheral integration
- Android AOSP CI/CD automatic builds
- Custom Intel Atom board integration with Ubuntu Server and drivers

Hardware : IMX6, IMX6s, IMX6d, IMX8

Software : C, Shell, python

Tools : Yocto, Buildroot, Git, gitlab CI/CD, Docker, SNMP, Unittest, Cunit

Employee @Vaillant Group : BSP Engineer / HMI Developer

06/2021 – 10/2021

Nantes (France)

Project Complete makeover of the boiler and heat pump product line, project of 30 persons split between France and Germany, my role was to maintain a bound on Embedded Linux topics between both R&Ds and to do HMI development

- Yocto integration of HMI app
- HMI development using Qt QML
- HMI development using Embedded Wizard
- App integration in LXC container
- Over the air update design

Hardware : IMX6

Software : C, Shell, Qt QML, Embedded Wizard

Tools : Yocto, LXC, Git, SVN, Jenkins

Contractor @SEPRO : BSP Engineer

11/2019 – 06/2021

La Roche Sur Yon (France)

Project Development of sepro's new robots in a R&D of 20 persons with the aim of refreshing the old product line, this involve creating from scratch the communication between the robots MPU (REST, websocket) and integrating new services for distant maintenance and monitoring

- Buildroot integrator and maintainer
- Embedded Linux architecture design
- Creation of team trainings regarding git and gitlab CI/CD
- Design of a CI/CD policy with test and deployment on target
- Creation of integration test campaigns
- Implementation of a REST API gateway tester
- Containerization of application software
- Over the Air update system rework

Hardware : IMX6

Software : C, Shell, Python, Lua

Tools : Buildroot, LXC, Git, Gitlab, Jenkins, Docker mypy, pylint, Flask, Nose2, civetweb	
Contractor @Thales : Kernel Developer / Integrator 12/2018 – 11/2019 Gennevilliers (France)	
Project	Development of a linux kernel driver for a state of the art audio board with 2 Analog Device DSP in parallel with 8 channels in and 8 channels out, this project was part of a major military vehicle project <ul style="list-style-type: none"> ➤ Development of a custom audio board kernel driver ➤ Prototyping at early stage of the product ➤ Hardware debugging ➤ Integration of existing audio software stack on Yocto ➤ Writing of technical documentation on Yocto for internal reuse ➤ System level integration of the board <p>Hardware : IMX8 Software : C, Kernel Dev, Shell, C++ Tools : Git, Yocto, Alsa ASoC</p>
Contractor @SAGEMCOM : BSP Engineer and Bluetooth integrator 09/2017 – 12/2018 Rueil Malmaison (92, France)	
Project	Member of a 8 persons transversal team in SAGEMCOM's Set Top Box product line aimed on integrating several boards a month and integrating sub-parties software and applicative software. It's also responsible for the maintenance of the platform regarding hardware and connectivity <ul style="list-style-type: none"> ➤ New board integration in Buildroot ➤ Broadcom SDK integration and validation ➤ Packages integration in Buildroot ➤ Jenkins automated test development and maintenance ➤ Bluetooth Remote Control Unit integration ➤ Remote Control Over The Air update (Bluetooth) ➤ Remote Control audio streaming ➤ Development of Remote Control libraries <p>Hardware : Broadcom SoC, Arm Software : C, Shell, Makefile Tools : Buildroot, Git, SVN, Jenkins, BlueZ, Gstreamer</p>

Trainer and Teacher:

@Orsys : Git / Gitlab Trainer Since 2023 (up to 5 session a year) Nantes (France)
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	<ul style="list-style-type: none"> ➤ Providing professional training on git (2days) ➤ Providing professional training on gitlab CI/CD (3days) ➤ Developing training materials and exercises ➤ Bring trainee from git novice to CI/CD and DevOps beginners <p>Software : Python, pytest, poetry Tools : Git, Gitlab, Docker, Prometheus, Grafana, Trivy, LaTeX</p>
	<p>@ARInfo : Embedded Trainer 10/2022 – 2024 (3 training sessions of 4 weeks given)</p> <p>Nantes (France)</p> <ul style="list-style-type: none"> ➤ Providing professional training on git, Embedded Linux, C, software testing ➤ Developing training materials and exercises ➤ Coaching trainee all through the learning curve <p>Hardware : IMX8 Software : C Tools : Git, Github, Yocto, Makefile, shell</p>
	<p>@Polytech Sorbonne : Software Testing teacher for graduating Embedded System students Every year since 2020</p> <p>Paris (France)</p> <ul style="list-style-type: none"> ➤ Providing on my own a 30+ hours course on software quality, software testing, development process, management process and norms ➤ Complete makeover of the existing course to focus more on agility, DevOps and industrial software development ➤ Organizing a 16 hours workshop around the development of an app in Test Driven Development (TDD) managed with SCRUM teams of 3-10 students <p>Software : Python, Pytest, Unittest Tools : Git, Github Actions (CI/CD), Gitlab CI/CD, Trello, Docker</p>

Other experiences:

	<p>Volunteer @Heptalone : Fullstack Engineer 2018 – Today Nantes - Paris</p>
Project	<p>Heptalone is an association that offers a service of manuscript review for French authors</p> <ul style="list-style-type: none"> ➤ Developing heptalone.fr front and back ➤ Maintaining and upgrading the website ➤ Infrastructure design and upgrade <p>Software : Node.js, ejs, js, HTML5/CSS Tools : Git, Bootstrap, MongoDB, Docker</p>

Engineer @Quantics : Middleware engineer

2020 – 2023

Remote

Project Quantics is a startup project around the creation of object tracking in near real time. First prototype is a glove that tracks hands motion. We use multiple accelerometer and gyroscope to have a high-fidelity tracking system.

- Architecture and development of the python SDK
- Full development in TDD
- Pipeline for ESP32 firmware builds
- Pipelines for python module packaging and testing

Software : Python

Tools : Unittest, Pylint, Docker

Intern @Elsys Design : Embedded Linux Engineer

03/2017 – 09/2017

Cachan (92)

Project Building a bluetooth streaming station with high quality audio using Yocto and Raspberry Pi, the purpose of the internship was to develop a DAC Linux driver, a userspace application for streaming audio with Bluetooth and integrating everything with Yocto

- Audio board driver development
- Writing Yocto recipes for company reuse
- Preparation of internal document on integration with Yocto
- POC with only custom software layers
- POC with only community software

Hardware : ArmV7

Software : C, Shell, Makefile, Kernel Dev

Tools : Yocto, Alsa ASoC, PulseAudio, BlueZ