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Embedded system and software engineer

8 years work experience

Appeal for low level concurrent code, tooling and automated CI pipeline

Work experience

2017 – now github: @RIOT-OS	Rapstore - App store for the open source MCU OS RIOT <i>Freie Universität Berlin</i> Bug fix and evolve build system and tooling to support development outside of the main repository and automated testing directly by developers on hardware. Reach expert level in the existing build system with his bugs, hacks, and special cases. Work in an open source project with non expert peer reviews. Separate steps for evolution documentation, bug fix, cleanups, refactoring, new feature introduction, tests and static tests, documented deprecation, iterative conversion to feature. git, make, Python, bash, C, pytest, Jenkins, github
2011 – 2017 github: @iot-lab	Embedded development for large scale sensor testbed FIT-IoT-LAB <i>Inria Grenoble</i> Design and development of the testbed embedded software and network architecture. Yocto-Linux distributions with large scale NFS deployment running Python and C control software with FreeRTOS power and radio monitoring firmware on cortex-m3 μC . Implementation of the continuous integration process with Yocto and software on hardware deployment, and on target unit and integration testing. Target of 100% branch coverage. Design, development of user command line tools and embedded usage examples. English documentation and user support for the embedded software and testbed usage. C, Python, ARM-CortexM3, RTOS, Yocto, IPv6, Jenkins, CI automated tools
Teaching 2 years Internship 2011-6 month	Development of an OS with virtual memory on x86 <i>Grenoble INP - Ensimag</i> Post assertion core dump solution for an embedded system <i>THALES Avionics Valence</i> Generate a full post assertion processor and memory state core dump and debugger reloading DSP asm, gdb, linkerscript, COFF <i>Galileo Positioning System ground equipments</i>

Education

2008 – 2011	Grenoble INP - Ensimag, Master degree in embedded systems and softwares <i>Top French computer science and math engineering school</i> Operating system, multithreaded programming, distributed systems, real time systems, SoC architecture, hardware security, fault tolerance - <i>From hardware to networking</i>
2006 – 2008	Two-year highly selective classes to prepare for Grandes Ecoles competitive exams "Classe préparatoires aux grandes écoles" Mathematics, physics <i>Lycée Kleber, Strasbourg</i>

Representative school projects

Embedded OS	Embedded MIPS multitask operating system with kernel/user space - <i>C, assembly, syscalls, irq</i>
Linux Driver	FPGA network card driver on an embedded Linux - <i>C, Embedded Linux</i>
Distributed	Distributed hash table design and development - <i>C, unix sockets, concurrency, distributed</i>

Technical skills

Languages	C, Python, Assembly, Bash
Tools	GNU/Linux, Advanced Git, Yocto, Jenkins, Terminal/vim, Makefile
Testing	Unit and integration tests, setup of an on target CI process, test and code coverage reports

Languages

French	Mother tongue
English	Working knowledge and conversational. Working in English for 8 years
German	Conversational, good oral comprehension, Level B2

Activities

Metal music, beer, cooking, video games, board games, climbing

References available upon request.