

# Senior Embedded Linux system Engineer

## Thomas Perrot

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## Experiences

### December 2020 - Present: Embedded Linux and kernel Engineer

Permanent job in **Bootlin**, Toulouse.

- Porting the Linux kernel and developing device drivers
- Integrating open-source components and building systems
- Contributing to upstream board support packages and device drivers

### July 2015 - December 2020: Embedded Linux Engineer

Permanent job in **SIGFOX**

- Board bring-up and initial setup
- Board support packages, including bootloaders and kernels.
- Core system components such as boot processes, partitioning, OTA upgrades, and rollback mechanisms
- Security system components, including TPM, encryption, integrity systems, trusted boot, and measured boot

### April 2014 - July 2015: Android System Integrator

Permanent job in **Intel Android SI NPI** on behalf of Celad & SHT, Toulouse.

- Introduce and maintain new Pre-silicon platforms under Android mainline.
- Publish releases, best know configurations and methods.
- Bring up, build, first boot and power-on support.

### February 2014 - March 2014: ROS System Integrator

Permanent job in **Sogeti High Tech**, R&D, Toulouse.

- Design a embedded ROS node with ROSc for coOS.
- Design a custom ROS bridge for Unicom framework.

### August 2011 - February 2014: Embedded system software engineer

Permanent job in **Airbus S.A.S** on behalf of Sogeti High Tech, Toulouse.

- Development and operation maintenance of primary flight control Airbus A380 and A400M.
- Embedded code WCET optimization and certification analysis.

### February 2011 - August 2011: Research assistant / ROS System Developer

Temporary job of 5 months in **Office National Études et de Recherches Aérospatiales**, Toulouse.

- Design and implement with ROS a tool to simulate the communication between different software modules of heterogeneous critical systems.

### October 2010 - February 2011: Internship / VHDL Processor Designer

Internship of 5 months in **Atelier Interuniversitaire de Micro-nano Électronique**, Toulouse.

- Design a 32-bit scalar pipelined RISC processor in-order Harvard architecture.

### February 2010 - August 2010: Research assistant / Worst Case Execution Time Analysis

Temporary job of 6 months in **Institut de Recherche en Informatique de Toulouse**, Toulouse.

- Temporal analysis of parallel processus on multi-core processors.

## Technical Skills

**Operating Systems:** Linux, OpenEmbedded, Yocto, Buildroot, RIOT-OS, Zephyr

**Bootloader:** U-boot, TF-A, at91, OP-TEE

**Architectures:** x86-64, ARMv7, ARMv8, PowerPC, RISC-V

**Platforms:** QorIQ, ARMADA, i.MX, STM32MP1, SAMA5, SAMA7, Tegra, U740, X280

**Languages:** ASM, Bash, C, Latex, Python

**Version control:** Git, git-repo, Kas

**Tools:** Jira, Gerrit, Qemu, GDB, Valgrind, Lauterbach, Saleae, Podman

**Software Design:** MDA, OCL, UML

**Standards:** DO178B DAL A, EABI, ISO C99, POSIX

## Personal achievements

Volunteer open source contributor

Part time job to finance my studies

Master Degree with honor

Winner of the « 2009 IT night » .

## Education

**2011:** Master Degree (5 years)

Architecture of critical and real-time embedded systems

**2010:** Master Degree (4 years)

Embedded and real-time systems and Modeling of software components

**2009:** Bachelor's degree of Fundamental IT

## Languages

**French:** mother tongue

**English:** intermediate

## Additional information

Linux technologist and free software enthusiast

Hobbies: arcade, CrossFit, IT, IoT, retro computing, robotics, trekking