



# Guillaume Scigala

*Embedded software engineer*

## Education

- 2013–2014 **Master of Science**, *Université Paris Sud, Orsay, France, Grade B.*  
Specialized in Embedded Systems and Information Processing, research finality
- 2009–2014 **Master of Engineering**, *ESME Sudria, Ivry-sur-Seine, France.*  
Specialized in Embedded Systems

## Experience

- 2018–Present **Software Design Engineer**, *ESSILOR INSTRUMENTS, Créteil, France.*  
Design software solutions for new products with Linux or bare metal systems, from conception to production.

Detailed achievements:

- Embedded software architecture design.
- Embedded software prototyping and development.
- Protocol specification.
- Production bench design.
- Integration and deployment of production release with Linux build system.
- Kernel Linux development.

- 2014–2018 **Embedded Software Engineer**, *OPEN WIDE, Paris, France.*  
Development and design of embedded software for dedicated systems from low-level to HMI (Linux kernel-space, user-space and firmware). Configuration and integration in Linux build system.

Detailed achievements:

- Embedded software development : algorithm design and implementation in wearable device using C, CMake and Git.
- Video stream software architecture and development using GStreamer and Python.
- Automotive software development in C using CAN bus.
- HMI development with Qt framework.

## Internships

- 2014  
(6 months) **Embedded Software Engineer Intern**, *ROBERT BOSCH FRANCE SAS, Saint-Ouen, France.*  
Exploration of engine control ECU virtualization with ETAS EVE.
- 2013  
(3 months) **Summer Student**, *CERN, Meyrin, Switzerland.*  
Creation of a new web portal for the LHC@home program.

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## Miscellaneous

### 2017-Present **Personal project - iOS and watchOS application development.**

Development of a metronome app, using iPhone and Apple Watch taptic engine.

### 2015-2017 **Personal project - Linux integration and development.**

Development and integration of services on Raspberry Pi with Linux Raspbian and Fedora.

Detailed achievements:

- LXC container management.
- AFP sharing set up.
- OpenVPN integration.
- Git server implementation.
- AirPlay speaker, using shareport.
- Home control with radio-frequency using homebridge, compatible with Apple HomeKit.

### 2014 **Stream architectural design of microprocessors.**

Benchmarking of a microprocessor for a matrix multiplication algorithm and the AES algorithm.

Detailed achievements:

- Simulation with SimpleScalar LLC.
- Surface and consumption optimization with Cacti.
- Process data to find the compromise solutions.

## Publications

### January 2016 **Xvisor VirtIO CAN: Fast Virtualized CAN, ERTS-HAL.**

CAN bus virtualization is challenging as it has to tackle the CAN arbitration mechanism and to provide CAN frame broadcast in a transparent manner. This paper use the VirtIO virtualization interface with a virtual CAN service and framework to manage virtualized CAN messaging for external and internal systems.

## Computer skills

Programming	C (ANSI, MISRA), C++, Java, Python, Swift, Bash, assembly (Intel 8051, PIC)
Framework	QT-QML, GStreamer
OS	Linux (Fedora, Debian), Yocto, Android, iOS, macOS, Windows
Hardware	STM32, ARM Cortex-M
Methodology	UML, AUTOSAR
Protocol	CAN, TCP/IP, Bluetooth Low Energy
Web	IoT, Node.js, HTML/PHP, Wordpress, Drupal
Others	Git, SVN

## Languages

French **Mothertongue**

English **Advanced**

*Technical and conversationally fluent*

## Interests

Sciences *Computing science, particle physics, cosmology*

Culture *Music, Opera, Cinema*

Activities *Cyclist, clarinetist, treasurer of the local wind orchestra*

Travels *Italia, Greece, Mongolia*

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