

## contact

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## languages

French mother tongue  
♥ Spanish bilingual  
English fluency  
Mandarin basic

## programming

♥ C/C++, Java, JS  
Android SDK and NDK  
Objective C, Swift  
Embedded Linux  
STM32 MCU  
ARM Cortex M0+, M3  
Contiki, RIOT  
Angular, Node, Cordova  
PHP, Symfony2, Laravel  
SQL, Bash, Python  
Docker, Jenkins, Agile  
Git, L<sup>A</sup>T<sub>E</sub>X

## networks

♥ VLC - 802.15.7  
♥ Bluetooth LE  
802.15.4, 6LoWPAN  
LPWAN, LoRa, Sigfox  
♥ Network security

## work experience

- 2015–Now **Rtone** Lyon, France  
*Research Engineer, PhD student*  
PhD. : Visible Light Communications in a Smart City environment  
Working toward bi-directional Device-to-Device communication using LED lights and smartphones
- 2014– Now **Rtone** Lyon, France  
*Embedded Software Engineer*  
Micro-controller programming:  
  - Body-Area-Network development in a sport context (802.15.4)
  - Low Power management and optimization
  - STM32, ARM Cortex M0+, M0 and M3
  - TI MSP430.Bluetooth Low Energy firmware development on Nordic, Bluegiga SoC.  
Embedded Linux 3G Gateway: C++, Yocto Project  
Mobile Applications :  
  - Bluetooth Low Energy
  - Ultrasounds
  - iOS SDK using Objective C and Swift
  - Android SDK and NDK
  - Cross-platform using Apache Cordova and IonicWeb Applications :  
  - Evolution and improvement of various Java WebApp (Spring, Hibernate, GWT)
  - OSGI Bundle development for the Eclipse Kura project using Eclipse Equinox.
- H1 2015 **ENTEL, Universidad Politecnica de Cataluna** Barcelona, Spain  
*Light sensor development for the Ara platform*  
Research project within the Wireless Network Group, 5 months :  
  - Visible Light Communications (VLC) state of the art
  - Development of a VLC front-end for the Google Ara modular smartphone
  - Hardware design and firmware programming in C
  - Android SDK and NDK programming
- 2013– Now **Freelance Developer** Lyon, France  
*Mobile and Web applications developer*  
Various mobile and web applications development using technologies such as Java, Swift, Symphony2/3, Angular, Polymer  
Most relevant projects:  
  - Meeting reporting Android application for a knowledge management project (TechCico Laboratory, Universit  Technologique de Troyes)
  - Intranet web application enabling energy consumption monitoring in a factory (Michelin Troyes)
  - Web Application allowing fire protection system scaling and planning

## education

- 2015–2018 **PhD.** Visible Light Communications in a Smart City environment CITI Lab  
*INRIA AGOA Team, funded by Rtone (French CIFRE fellowship)*
- 2009–2015 **M.Eng.** in Computer Science and Telecommunications. INSA de Lyon  
*Fifth year final semester abroad at the UPC-ETSETB, Spain*  
*First two years in Asian international section*

## publications

### International conferences proceedings

A. Duque, R. Stanica, H. Rivano, and A. Desportes, **"Demo : Off-the-shelf bi-directional visible light communication module for IoT devices and smartphones"**

in *Proceedings of the 2017 International Conference on Embedded Wireless Systems and Networks EWSN'17*, (Uppsala, Sweden), 2017

A. Duque, R. Stanica, H. Rivano, and A. Desportes, **"Unleashing the power of led- to-camera communications for iot devices"**

in *Proceedings of the 3rd Workshop on Visible Light Communication System VLCS'16*, (New York, NY, USA)

A. Duque, R. Stanica, H. Rivano, and A. Desportes, **"Demo: Unleashing the power of led- to-camera communications for iot devices"**

in *Proceedings of the 3rd Workshop on Visible Light Communication Systems VLCS'16*, (New York, NY, USA)

## interests

**professional** : technological watch, free and open-source software activist, contributor at OpenMRS, Google Summer of Code 2014 and 2016 student

**sport** : duathlon, cycling, athletics (national level)

**culture** : reading, practicing the classical and electric guitar