

# TELECOMMUNICATION ENGINEER

## Personal information

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**Birthdate and birthplace:** September 7th 1987, Madrid  
**Nationality:** Spanish  
**Driving license:** B1



## Studies

**Institution:** ESIEE Paris  
**Qualification:** Master of engineering  
**Date:** 2013

**Institution:** E.T.S.E de Telecomunicación – University of Vigo  
**Qualification:** Telecommunication engineer  
**Orientation:** Signal processing and radio-communications  
**Date:** 2005-2013

## Professional experience

**Company:** Bit Oceans Research S.L.  
**Activity:** Internship as R&D researcher on signal processing (Print & Scan channel, image processing). The project's goal was detecting the defects of scanned images using mathematical morphology, segmentation, filtering and statistical analysis.  
**Date:** 2012

## Technical skills

**Digital sound processing:** Fourier analysis for extracting frequency parameters, Voice Activity Detector (VAD) and Zero-crossing rate for speech processing, Signal-to-Noise Ratio (SNR), envelope detector/follower, LPC, and deep statistical analysis.  
**Image processing:** Mathematical morphology, segmentation, shaping and all kinds of filtering techniques in 2D and 3D.  
**Signal processing:** Analogic and digital signal processing. Filters, sampling, Fourier transform (STFT, DFT and FFT), convolution, Wiener filter and Linear Prediction Coding (LPC), Least Mean Squares filter (LMS), window functions.  
**Signal oriented statistics:** Mean, median and mode, discrete and continuous probability distributions, convergence of random variables, law of large numbers, central limit theorem, and stochastic processes.

**Mathematical software:** Matlab (high skilled) and MIR Toolbox (for musical features extraction), PSPICE, Pink (Python based, for image processing).  
**Music edition software:** Logic Pro, Pro Tools, Cubase, Acid Pro (high skilled); basic skills of keyboard  
**Programming languages:** Pascal, Assembler, VHDL, C, C++, Java, Python, PHP, XML, HTML.  
**OS:** Windows, Linux/Unix, and Mac OS X.

## Other projects

**Track synchronization:** Creation and development of a project conceived by myself whose goal was the automatic synchronization of audio tracks. It was based on VAD, Fourier transform, envelope detection, decimation/interpolation methods, and statistical analysis. It was made the comparison between LPF, Hilbert and half Hann filtering methods for extracting the envelope. The project was coded in Matlab and statistically evaluated with great results.

**Website:** <http://youtu.be/ZXtSnQD7F8I>

**Date:** 2011

## Other professional experiences

**Company:** Familia Freestyle Camps  
**Activity:** PR boss: coordinator of the public relations team, communicating with the PR network throughout Spain, establishing remuneration conditions, and managing their benefits.

**Date:** 2011-present

**Company:** Quality area – University of Vigo  
**Activity:** Scholarship making teacher evaluation surveys.

**Date:** 2011-2012

**Company:** SMK Snowboard (Interuniversitysnow.com)  
**Activity:** General guide responsible for more than 100 people: travel management, price negotiation with shops and bars, explaining the details of the trip, and accommodation of customers on a ski trip to Orcières (Alps, France).

**Date:** March 2010

## Language skills

**English:** Good communicative skills with knowledge of technical English B1 level accredited (CEFR: Common European Framework Reference)

**French:** Intermediate level: 6 months living in Paris (ERASMUS program)

**Spanish:** Native