



Daniel Bretón Suárez

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Embedded software engineer with experience in **hardware** design and **product development**.

Education

University

Master of Science in **telecommunications engineering** conducted at Universidad de Oviedo. Asturias, Spain.

- Strong focus on calculus and algebra. Including mathematical modeling and simulations.
- Electronic theory, simulations and prototyping for power electronics, control and communications.
- Software engineering foundations. OOP and embedded devices. Computational complexity, algorithms, computer science and network architecture.
- Signal theory and stochastic processes for telecommunications systems modeling.
- Strong focus on electromagnetism theory. Antenna prototyping.
- Project management, feasibility and viability analysis.
- Technical drawing and CAD basics.
- Classical physics and quantum theory basics.
- Basics on economics.

Post-graduate education

Subject	Company	Year
Gitlab best practices	ZIV	2021
Cybersecurity at work	ZIV	2021
Doxygen best practices	ZIV	2021
Unitary tests and continuous integration	ZIV	2020
Static code analysis tools	ZIV	2020
GNU Autotools	ZIV	2019
Introduction to PRIME	ZIV	2019
First Aids	Tecnia	2019
Code style	Tecnia	2019
Introduction to A.I.	Stanford University (online)	2019

Languages

- **Spanish**: Native.
- **English**: Advanced user. Cambridge English CEFR level C1.

Awards

2015 Third Prize Paper Award.

The Transportation Systems Committee of the IEEE Industry Applications Society.

For the manuscript co-authored with M. Arias, M.M. Hernando, U. Viscarret and Iñigo Gil, entitled "Equalization system for serially-connected battery cells based on the wave-trap concept" as presented at the 2014 Energy conversion Congress and Exposition, Pittsburgh, PA, USA.

Profesional experience

Role	Company	Duration
Embedded software engineer ¹	ZIV Automation	From september 2019
Embedded software engineer	Tecnia	1 year
HW/FW engineer	Treelogic	3 years
Software engineer	Capgemini	6 months
Power electronics researcher	Ikerlan	1 year
Sound technician	multiple locations	--

Key skills

- **Embedded programming languages:** C, C++, Assembly.
- **Other programming languages:** Python, Matlab/Octave, Bash, Java.
- **Architectures:** 8-bit ARM, 32-bit ARM, 8-bit PIC, 8051, embedded debian.
- **Distributed version control systems:** Git, subversion.
- **Continuous integration:** Gitlab, Github, Jenkins.

Industrial skills and experience

- **Electronic basics:** Circuit analysis, chip soldering, oscilloscope and analysis tools.
- **Low-level communications:** SPI, UART, I2C, DMA.
- **Low-level drivers:** IRQs, low-power management, bus clocking, RTC.
- **Embedded RF:** RFID, Bluetooth, NB-IoT, 4G, 3G, 2G, LoRa, 868Mhz/433Mhz p2p radios.
- **Smart grids:** DLMS, PRIME, Meters and more, Smart meters.
- **Long-lasting devices:** Flash maintenance, Aging tests, Defective analysis.

Office basics

- **Operative systems:** Windows, linux (debian based), virtual machines.
- **Networking:** ssh, remote desktop.
- **Microsoft office suite:** Word, Excel, Power point.

Highlighted projects

More detailed information available at my [personal portfolio](#). Also available the [ongoing projects](#).

Foggy radar

Company **Treelogic**

Client Ministry of development of Spain

Description A technological solution to virtualize drivers visibility on foggy conditions

Technologies Radar, smart radio, traffic lights

Role Hardware & firmware engineer, project manager

Years 2016 - 2019

Robots for kids

Company **Treelogic**

Client Adele Robots, Edelvives

Description A consumer electronic device for educating kids at schools

Technologies Robotics, consumer electronics

Role Hardware engineer

Years 2018 - 2019

Smart meters I

Company **Tecnalia**

Client ZIV, Endesa

Description A embedded software development on a smart meter for the spanish market

Technologies Metering, smart grids

Role Firmware engineer

Years 2019

Smart meters II

Company **ZIV, Alfamar**

Client Saudi Electricity Company

Description A huge project on smart grids for the whole kingdom of Saudi Arabia

Technologies Metering, smart grids, NB-IoT

Role Firmware engineer, **head of software**

Years Ongoing, started on 2019

Interests

Music, hiking, running, personal projects, surf, gastronomy, science & engineering, cultural events.

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Lastest version of this document can be found at:

- html responsive: <https://dabresua.github.io/>
- pdf: https://github.com/dabresua/dabresua.github.io/raw/master/DBS_CV_remote.pdf

This document has been generated using markdown and pandoc, source code is available at <https://github.com/dabresua/dabresua.github.io>
