



# Juan Muñoz Villalón

Student at University Carlos III Madrid

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## About me

I am currently pursuing a Master's in Machine Learning for Health. I consider myself a responsible, multidisciplinary person with the ability to self-learn and work in a team.

I am interested in the use of artificial intelligence and machine learning in various scientific fields, such as healthcare, which I am currently studying. I am excited to apply the knowledge gained during the master's program in the industry. I am also very fascinated with the photonics integrated circuits.

## Languages

Spanish · Native

English · Advanced

C1 Cambridge Level - 2021

## Hobbies

- I play the guitar and love skiing.
- I love reading about cosmos, physics, history and fantasy.

## Academic Background

23/25 Double Master in Telecommunication Technologies Engineering and Machine Learning for Healthcare

University Carlos III Madrid

- GSC Engineer at STAR uc3m (University association)

2022 Electrical and Computer Engineering

University of British Columbia (UBC) - Vancouver

- 5 months.
- Exchange Program.
- Knowledge in semiconductor laser theory and RF Integrated Circuits.

19/23 Degree in Telecommunication Technologies Engineering

University of Granada

- Average Grade: 8.817/10.
- TFG: Utilization analysis in Asynchronous TSN Networks
- 18 honors.

## Work Experience

Working Student

Infineon Technologies AG

Munich

July 2022 - September 2022

Full-time

- Implementation of a secure sensor in PSoC 64 for incrementing the security in blockchains as it can be used as oracles.
- Development of a JavaScript server in a docker to verify authentication from a hardware key.
- Co-author of the paper "Blockchain Oracle design using Trusted Firmware-M in IIoT Networks"

## University Projects

- Signal processing studying different modulation and codification methods.
- Implementation of C program (elevator controller) for microcontrollers.
- Development of a ping pong game in VHDL and a baccarat game in Verilog inside of a FPGA (De1-Soc).
- Design of multiple Fabry-Perot cavities for a semiconductor laser of 1310 nm with different configurations. Knowledge in using Lumerical Mode and KLayout.
- Development of a client-server application in python with a graphical interface that generates an output based on data entered by the user.
- Simulations of Electronics Circuits in LTspice and Qucs.
- Design of a LNA, a mixer and a VCO in Cadence Virtuoso.
- Design of a CST patch antenna for a frequency of 19.6 GHz
- Multi-program development in Java
- Comparison of performance between Kalman Filter and Particle Filter
- Classification challenge using machine learning (neural networks, kNN) and NLP techniques

## Program Languages

- Matlab
- Python
- C/C++
- Java
- VHDL/Verilog
- Docker
- HTML
- Git