

# Máximo Fernández Núñez

Machine learning engineer

Website

[maximofn.com](https://maximofn.com)

LinkedIn

[in/MaximoFN](https://in/MaximoFN)

GitHub

[@maximofn](https://@maximofn)

HuggingFace

[@maximofn](https://@maximofn)

Kaggle

[@maximofn](https://@maximofn)

Blog

[maximofn.com/blog](https://maximofn.com/blog)



## Resume Summary

+10 years of experience. Specialized in the development of artificial intelligence systems for the area of vision. Experience in Jetson. Model optimization with TensorRT. Researching generative AI & LLMs. Python, Pytorch, TensorRT, bash, docker, git.



## Work Experience

09/2022-present

### Machine learning engineer / Generative AI & LLMs research, Sener Aeroespacial

- Development of convolutional segmentation networks, object detection using YOLO and depth.
- Workflow for creating synthetic images using generative AI with stable diffusion-based models. Thanks to this dataset, images are obtained with unusual weather conditions or configurations, making the network much more robust.
- Optimizing neural networks with TensorRT to run faster and use less memory VRAM
- Implementation of boot scripts for embedded devices. With these scripts anyone can boot an embedded device.
- Boosting the promotion of a colleague
- Mentoring of interns and juniors
- Research on the use of customized LLMs. Study of the state of the art (Llama, Mixtral, Mamba, ...), frameworks (langchain, llamaindex, ollama, ...), search (RAG), fine tuning (PEFT, SFT, RM, PPO, DPO, LoRA). Proposal of use cases in pilot projects

10/2017-07/2022

### AI Engineer, Arquimea

- Development of detection algorithms with YOLO for a UAV. No longer necessary to buy a specific device for detection, saving 2000€ per UAV.
- Neural network prototype for vision-based geopositioning. In case of GPS disablement in an electronic war, the UAV is able to geoposition itself.
- Leadership in the design of a single HW and FW. Drastic reduction of design, purchasing and assembly cost..

01/2013-10/2017

### Electronic engineer, Indra

- Hardware and Software design. Design, documentation, integration, testing, team work



## Education

09/2005-06/2011

**Electronic engineering,**  
Universidad Complutense de Madrid



## Personal Info

### Location

Madrid, Spain

### Phone

(34) 635244847

### E-mail

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## Tools

Python

Pytorch

TensorRT

Computer vision

LLMs

Generative AI

Huggingface

Numpy

Pandas

Matplotlib

Git

Docker

Scikit-learn

FastAPI

SSH

Conda

Astro

Gradio

Terminal



## Languages

Spanish

●●●●●●●●

Native

English

●●●●●●●●

Good

[EF SET 56/100](#)  
[B2 Equivalent](#)

Portuguese

●●●●●●●●

Basic

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## Personal Projects

10/2023-  
11/2023

### [Subtify](#)

AI to which you give a youtube or twitch video and generates subtitles translated into the language you want, distinguishing each person who speaks in the video. If you activate the subtitles in Youtube and there are several people, it puts all the subtitles in the same color, so sometimes it can be difficult to know which person is generating the subtitles.

10/2023-  
11/2023

### [GPU monitor](#)

GPU monitor, usage and temperature, displayed in linux top bar.

02/2023

### [Alfred](#)

LLM wizard for the linux terminal. With this wizard you can ask questions to the linux terminal, asking how to do what you want to do, it gives you the solution and proposes you to execute it.



## Competitions

06/2022-  
09/2022

### [HuBMAP + HPA - Hacking the Human Body](#)

Image segmentation of organs to detect functional tissue units (FTUs)

05/2020-  
08/2020

### [SIIM-ISIC Melanoma Classification](#)

Detect melanomas in moles through photos

11/2020-  
02/2021

### [Rainforest Connection Species Audio Detection](#)

Recognize animals through jungle audios

11/2020-  
02/2021

### [Cassava Leaf Disease Classification](#)

Detect diseases in plants through photos

09/2020-  
12/2020

### [Hash Code Archive - Drone Delivery - 3rd position](#)

Optimize the routes of drones that have to deliver packages to customers



## Certifications

01/2023

- [EF SET English level Certificate \(56/100\) - B2 equivalent](#)



## Skills

- High communication skills
- Solution proposition
- Eager to learn
- Resilience
- Creating a good environment
- Decisive attitude
- Presentation of results
- Dynamism
- Collaborate
- Improve
- Mentoring
- Teamwork
- Agility
- Proactivity
- Empathy