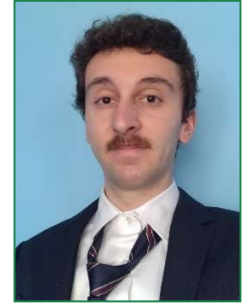


# OLIVER FERNANDEZ-ALVAREZ

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I have a bachelor degree in the field of electrical engineering from “Escuela politécnica de ingeniería de Gijón”. Apart from the skills learnt in my main studies, I have been trained in the design of printable circuit boards, programming with Python code and modelling for 3D printing. Spanish is my mother tongue and I also speak fluent English, I am currently learning German. I am working as a technical engineer in TKE and I’ve also studied a master course in Energy management from “Universidad de Oviedo”. I received the end-of-degree extraordinary prize, proving some personal qualities such as ambition, hard work and confidence in myself. I am looking for a job to improve my skills and build a successful career.

## EXPERIENCE

2021 TO PRESENT

### ELECTRICAL ENGINEER TRAINEE

TKE, MIERES, SPAIN

Working in a big size engineering firm to build passenger boarding bridges in United States airports. Providing services as an electrical engineer, technical support, project documentation... The daily works involve using software tools such as: Dialux, Eplan, Excel, Autocad...

JULY 2017- AUGUST 2017

### ELECTRICAL ENGINEER INTERNSHIP

ENCE, NAVIA, SPAIN

Internship consisting of an analysis of the production of electrical energy using a biomass boiler and a liquor boiler. The liquor boiler was related to a chemical process and the biomass boiler produced electrical energy. The main target was to optimize the profit and avoid the electrical penalties. To develop this work, I did some data science using “Microsfot Excel”, consisting of plotting big data about electrical power.

JANUARY 2019- JULY 2019

### ELECTRICAL ENGINEER INTERNSHIP

UPINTELLIGENCE, GIJON, SPAIN

Working as a technical engineer in a digital transformation company. Daily tasks are related to electronics and programming, my main activities were:

- Printable circuit boards design.
- Choose the electronical components for experimental devices.
- Analysis of dataframes in Python.

## EDUCATION

### MASTER COURSE: ENERGY MANAGEMENT, UNIVERSIDAD DE OVIEDO

- Heat transmission.
- Energy efficiency.
- Data science and Matlab programming.
- Energy generation.
- Power plants.

### MASTER COURSE: INSTITUTE TEACHER, UNIVERSIDAD DE OVIEDO

- Knowledge related to teaching methodologies and speech.

### BACHELOR DEGREE: INDUSTRIAL ENGINEERING (ELECTRICAL TECHNICAL ENGINEERING), UNIVERSIDAD DE OVIEDO

#### INDUSTRIAL ENGINEERING

- Mathematical studies and Matlab programming.
- Classical mechanics and fluid mechanics.
- Basic statistics and probabilistic modelling.
- Programming with Python code.
- Theoretical bases of structures and materials.
- Technical drawing using autocad.

#### ELECTRICAL ENGINEERING

- Electrical energy generation.
- Electrical machines (generator, motor and power transformer)
- Power electronics.
- Electrical networks.
- Renewable energy sources.
- Electric installations.

## SKILLS

- |                          |                         |
|--------------------------|-------------------------|
| • Electrical engineering | • Electronics           |
| • Data science           | • Teamwork              |
| • Python                 | • Program development   |
| • Microsoft Excel        | • Technical engineering |
| • PCB design             | • Dialux                |
| • Renewable energy       | • Eplan                 |

## PROJECTS

### TFG

The target of this project is to demonstrate the utility of Hall effect sensors to control a permanent magnet synchronous motor. The control of an electrical motor needs to know two variables: speed and turning angle. These sensors pretend to provide these signals and they are cheaper and smaller than the ones currently used. To develop this work, I have done the following tasks.

- Simulink simulations of the control.
- Data science using Matlab.
- Printable circuit boards design.
- 3D printable models design.
- Microcontroller programming.
- Laboratory operations to build the experimental device.

At the end of the project, some economical and technical conclusions are established.

## **OPEN LOOP CONTROL**

Control of permanent magnet synchronous motor using variable frequency and voltage. The performed work consists of:

- Design of a printable circuit board with an inverter to power the permanent magnet synchronous motor.
- Microcontroller programming with an open loop control.
- Laboratory operations to develop the experiment.
- Oscilloscope use to visualize the wave forms.

Ending the project with the following results:

- Wave form of the voltage input.
- Wave form of the current input.

## **ELECTRICITY TARIFF**

Representation of the load curves and monthly tables of power consumption for a college building.

Project outcomes are:

- Accounting estimates of the electricity tariff of a real building.
- Power evolution during a year.
- Load curves in every tariff period.

In a later project, an economic study will be done based on a power change. It will mean an economic save and an efficiency improvement.