

# PEDRO MUÑOZ BOTAS

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## ABOUT

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I help companies and organizations to solve their problems through data analysis. I like to do a careful and very organized work so that my solutions can stand out. I have a broad experience in the Big Data ecosystem (Spark, Hive, Impala, Flume...) and in the Machine Learning one (Tensorflow, OpenCV, Scikit-Learn...).

I am the AWS DeepRacer Spanish League winner, where I developed an autonomous driven car model using Reinforcement Learning. Thus, I will be in Las Vegas competing in the World League.

I am the creator of The Moderator Guru, an NLP tool that is capable of detecting and classifying toxic comments. I've also developed all web and chat interfaces, along with the analytics stack on HRbots.

I am the Indie Hackers Madrid Community Ambassador. You can follow what I'm currently doing at The Gurus and a detailed CV at my personal website.

## EXPERIENCE

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### **Pragsis Bidoop**

April 2018 - Present

*Senior Data Scientist*

#### · TASKS:

- Development of Machine Learning models using traditional (scikit-learn, XGBoost, lightGBM) and Deep Learning (TensorFlow, Keras) frameworks
- Scaling Machine Learning models from prototyping to production using distributed and parallel computing (Spark, Dask, Celery)
- Orchestration of data pipelines using Apache Airflow
- Python toolkit for data science: pandas, matplotlib, plotly, numpy...
- Live tracking of people in buses with WiFi sniffing techniques: Scapy
- Computer vision analysis: edge TPU, tflite, OpenCV

#### · ACHIEVEMENTS:

- Improvement of 10 points in the electrical power prediction of Iberdrola wind mill farms
- Reduction of Spark computation times in processing chains: from days (or not finishing at all) to few minutes
- Developed a live tracking system for detecting people using Computer Vision techniques optimized for low consumption hardware requirements (Google Edge TPU, Raspberry Pi)

### **HRbots**

January 2018 - Present

*Tech Director*

#### · TASKS:

- Development of chatbots (engine and chat interfaces) applied to Human Resources tasks

- Use of Google AI engine for improving the chat experience: Dialogflow
- Development of a custom training system based on NLP: spaCy
- Extraction of insights from employee-chatbot conversations through data analysis to generate value in business processes: pandas

· ACHIEVEMENTS:

- Successful integration of a full featured PWA (push notification system, app-like interfaces...) in Top-Employers Institute
- Creation of engagement in bot conversations through contests and analytics

**The Moderator Guru**

January 2018 - Present

*Founder*

· TASKS:

- Development of a NLP engine capable of detecting and classifying toxic comments
- Development of the Frontend stack (HTML, CSS, Javascript) using Bootstrap and jQuery along with a Django backend

· ACHIEVEMENTS:

- An NLP project working on production with an available API, able to server thousands of requests per minute
- Full project is bootstrapped and self-hosted in on- premise home infrastructure

**P3 Group**

June 2017 - April 2018

*Big Data Developer - Data Scientist*

· TASKS:

- Development of software with the Cloudera Environment: Spark (Java API), Hadoop, Impala, Hive...
- Use of AWS infrastructure (EC2, EMR, S3...)
- Creation and automatization of Cloudera clusters over EC2 instances
- Data analytics using simple correlations and data processing: Spark MLlib, pandas, scikit-learn

· ACHIEVEMENTS:

- Fully automatization of Cloudera clusters in AWS (launching, installation, processing and shut down)

**GMV**

May 2016 - June 2017

*Software Developer*

· TASKS:

- Development of flight dynamics software in Java and Python languages
- SST operator specialised in collision, re-entry and fragmentation risk analysis

**Etulos Solute**

July 2015 - May 2016

*Software Developer*

· TASKS:

- Development of a full-featured fatigue computation tool from scratch in Python and Fortran languages
- Management and cleanup of high amount of fatigue data with Python data science toolkit: numpy, pandas
- Teacher of a 10h course about fatigue analysis: It comprised theoretical fatigue concepts along with a description of Solydro, a software for fatigue analysis which I have developed at Solute

· ACHIEVEMENTS:

- Huge savings for Solute in terms of SW licenses ( 30K), as my code replaced the comercial SW used for fatigue analysis at the company

## EDUCATION

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**Formación Hadoop**

Master in Big Data

*March 2018 - April 2018*

Overall GPA: N/A

**Universidad Politécnica de Madrid**

Master in Applied Mathematics

*September 2014 - February 2016*

Overall GPA: 9.3/10

**Universidad Politécnica de Madrid**

Degree in Aerospace Engineering

*September 2010 - June 2014*

Overall GPA: 9.0/10

## HONORS & AWARDS

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**DeepRacer Winner**

Machine Learning competition organized by AWS which consisted in developing a Reinforcement Learning model for an autonomous driven car. I won the Spanish competition so I will be competing in Las Vegas in the World championship

*Amazon Web Services (AWS)*

**Excellent Performance**

Prize awarded to the highest marks (5 % of students) in Aerospace Engineering

*Universidad Politécnica de Madrid*

## CERFITICATIONS

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**Spark and Hadoop Developer CCA-175**

Credential ID: 100-020-312

*Cloudera*

**Certificate in Advanced English (C1)**

Grade C

*Cambridge University*

## TECHNICAL STACK

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**Machine Learning**

scikit-learn, lightGBM, MLlib

**Deep Learning**

TensorFlow, Keras, PyTorch

**Computer Vision**

OpenCV

**NLP**

NLTK, spaCy

**In Memory**

pandas, NumPy, Apache Arrow

**Relational**

PostgreSQL, SQLite, MySQL

**Big Data**

Apache Spark, Hive, Impala, Flume, Kafka, Cloudera, MapR

**Cloud Computing**

AWS (Amazon Web Services)

**Orchestration**

Apache Airflow, Apache Oozie

**Web Development**

HTML, CSS, Javascript, Django

**Languages**

Python, Scala, Java