

# MANUEL LEDO

## CONTACT

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## SKILLS

### PYTHON

Numpy  
Pandas  
Scikit-Learn  
Keras  
TensorFlow

### DATABASES

PostgreSQL  
MongoDB  
Neo4j

### MACHINE LEARNING

Supervised  
Unsupervised  
NLP

### DATA VISUALIZATION

Matplotlib  
Seaborn  
Plotly  
Streamlit  
Tableau

## EDUCATION

University of Santiago de Compostela, Spain  
Bachelor of Science Optometry  
Bachelor of Science Physics

## EXPERIENCE

### Metis

#### Data Scientist

New York, NY  
Mar. 2020 to Sept. 2020

Completed an immersive 12-week data science bootcamp with a strong emphasis on end-to-end project oriented skill-building in supervised/unsupervised machine learning, statistical modeling, data wrangling and data visualization through Python.

### Happy Flights

The goal of this project was to gain a deeper understanding of the US airports network structure using graph databases. Collecting data from the FAA, and DoT, along with Neo4j for the graph analysis we determined what airports were more important, and how they form clusters, employing PageRank and Louvain algorithms. Using the shortest path algorithm we found the shortest distance between any two airports.

### Where is Juan Carlos?

Former King of Spain, Juan Carlos, went missing for two weeks at the beginning of August 2020. He was involved in some money laundering, tax evasion, and sexual affairs. Using NLP techniques on 200k tweets, performed topic modeling and sentiment analysis of what Spanish people were thinking. Used NMF and CorEx algorithms for the topic modeling and Vader and TextBlob for the sentiment analysis. Mapped all the results by region using Plotly.

### Where is my mortgage?

Used the Freddie Mac Family Loan-Level Dataset, used logistic regression to predict mortgage default. With the results, created an app to predict if a mortgage would be approved. Being an imbalanced problem, we we undersampled the majority class, adjusted class weights and used F-2 for optimization strategy. Deployed the app using Streamlit.

### Correlation of the EUR/USD vs. world\_currencies/USD

Used historical daily historical data from the last 20 years from the Federal Reserve and looked at linear correlations between the EUR/USD pair and and the exchange rate of the USD with other major economies and currencies around the world. Found that some of the pairs are highly correlated with the USD, while others are not. Achieved optimal results with a polynomial model degree 2.

### SUNY Downstate Medical Center Senior Research Support Specialist

Brooklyn, NY  
Nov. 2014 to Mar. 2020

- Promoted from Instructional Support Technician to Sr. Specialist
- Managed a neuroscience lab, running psychophysics experiments on perception and attention using eye tracking technology

### Catro Centro Optico (frm. VistaOptica Lugo) Owner + Optometrist

Lugo, Spain  
July 2010 to July 2013

- Provide primary vision care ranging from vision testing and correction to the diagnosis, treatment, and management of vision changes
- Managed team and all operations including: scheduling, purchase and procurement, lease agreements, payroll.

### Barrow Neurological Institute Research Technician

Phoenix, AZ  
July 2008 to July 2010

- Worked on a neuroscience lab, running psychophysics experiments on perception and attention