

# Maria Araújo Barbosa

Computer Engineering Student



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## PROJECTS

### RETAIL MARKETPLACE - INTELLIGENT PLATFORM

Sept 2021 – Feb 2022 | University of Minho

**Python • Tensorflow • GCP**

- Creation of intelligent algorithms to integrate a marketplace web app. The goal of the implemented features was to help sellers improve profits by providing price recommendations, inventory suggestions, new product recommendations, and sentiment analysis, among others. This was accomplished using machine learning.
- The salespeople's results are then presented in a dashboard integrated with GCP (Google Cloud Platform).

### BOMBEDIA

Feb 2021 – June 2021 | University of Minho

**Python • Tensorflow • Flask • NLTK • SpaCy**

- Develop a web app to assess whether a narrative is controversial.
- Machine learning and NLP (natural language processing) were used for this purpose.
- Several steps were performed: Data extraction (from tweets), data preparation, building the dataset, building and training LTMS and CNN models and posterior validation. The tool performs sentiment analysis to extract the results, using the NLTK library.

### TRAFFIC FLOW SENSING

**Tensorflow**

Feb 2021 – June 2021 | University of Minho

- Develop a web app to collect, analyse and predict traffic flow at three points in the city of Braga.

### URGENCY EPISODES - DATA WAREHOUSING SYSTEM

**Tableau • MySQL**

Sept 2020 – Feb 2021 | University of Minho

- Development of a data warehousing architecture with the implementation of the ETL process, accompanied by a business intelligence system to visualize the conclusions drawn from the emergency episodes.

### EDUSHARE

**Javascript • Node.js • Express.js • MongoDB**

Sept 2020 – Feb 2021 | University of Minho

- Develop a web platform to manage and deliver educational resources with the goal of ensuring access to this type of resource for all students, promoting better academic performance.

### NETAC

**Python • Flask**

Feb 2020 – June 2020 | University of Minho

- Develop a web app to detect the presence of hate speech in online comments, associate some messages with it, and generate statistical reports for the user.
- This project is about text data processing and preparation using natural language processing technologies.

## EDUCATION

### UNIVERSITY OF MINHO

MASTER'S IN COMPUTER

ENGINEERING

Sept. 2020 - Present | Braga, PT

Current Grade: 17.2 / 20

### UNIVERSITY OF MINHO

BACHELOR'S IN COMPUTER SCIENCE

June 2020 | Braga, PT

Final Grade: 13.7 / 20.0

## SKILLS

### PROGRAMMING

Python • HTML • C • SQL •  
JavaScript • CSS • L<sup>A</sup>T<sub>E</sub>X • Java

### LIBRARIES/Frameworks

Tensorflow • SpaCy • NLTK •  
Express.js • Node.js •  
MongoDB • MySQL • Django •  
Flask

### TOOLS/PLATFORMS

Git • Docker • GCP • Tableau

## LANGUAGES

**Portuguese** C2 (Mother  
tongue)

**English** B2

**Spanish** A2

## TECHNICAL SKILLS

### SCIENTIFIC PRODUCTION

The NetAC project resulted in the publication of an article, **NetAC, An Automatic Classifier of Online Hate Speech Comments**, which was presented at the WorldCIST 2021 conference and indexed in SCOPUS.

### NATURAL LANGUAGE PROCESSING

- Attended UC: Language Processing and Compilers in the third year of undergraduate studies. Several language processing projects were done in this context.
- In the development of different projects, namely netAc, retail Marketplace, BomBedia it was been used different applications of natural language processing. Some of them are: Sentiment analysis, topic extraction, categorization and text summarization.

### LEARNING KNOWLEDGE AND EXTRACTION

- In the first year of the master's program, the Intelligent Systems profile is covered.
- This explored the application of data processing and ML models to extract knowledge from data.
- During this UC several projects were developed to improve the techniques learning. An example is the **Adult Census Income Prediction** where it were analyze the dataset, prepared the data and created predictive models with the goal to predict the salary classification.

### KNOWLEDGE OF DATA SYSTEMS

- Attended to the UC **Computing Application in bio-medicine** in the first year of the master's programme.
- This UC focused on creating data warehouse architectures using the process ETL to load data for the system. In addition, the use of Business Intelligent enabled the visualisation of the conclusions and patterns of the data in dashboards.
- As part of this UC, the project **Urgency episodes - Data Warehousing System** was carried out. For this purpose **mySQL** and **Tableau** were used.

### WEB APPLICATION DEVELOPMENT

- Attended the UC **Web Application Development** in the first year of the master's degree.
- In addition, It was able to gain knowledge in web application development by working on various projects.

## EXPERIENCE

### LOCAL ACCOMMODATION MANAGEMENT

April 2018 – present | Quinta da avó Miquinhas, Vieira do Minho - Braga

- Organizing local accommodation: managing advertisements and online platforms; coordinating bookings, payments and invoicing; Reception of guests;

### TUTORING IN A STUDY CENTRE

June 2018 – May 2021 | Associação Dzafios, Braga

- Tutoring students from first through twelfth grade, helping them complete homework assignments, reviewing and explaining material for the assessments.