Hugo Sousa

PHD STUDENT & NLP ASSISTANT RESEARCHER

Research Interest

Artificial Intelligence, Machine Learning, and Natural Language Processing.

Employment History

Research Assistant, INESC TEC

DECEMBER 2020 — PRESENT

Currently working on the MINE4HEALTH project which aims to extract biomedical information form the extensive Electronic Health Records of cancer patients. This project is being developed with IPO Porto, the largest institute against cancer in Portugal.

Data Scientist, BNP Paribas

DECEMBER 2019 — DECEMBER 2020

As part of the Control and Support of Operations team my projects are focused on the improvement of the performance of the operational teams.

As an example, one of my first projects were to improve the score to evaluate the likelihood of an unpaid client to pay. To do this, I tested various Machine Learning models, and my best model - which is now in production - resulted in a 3 percent improvement in credit recovery, which represents about 6 million euros per month.

On a technical level, I use SQL to extract the databases and Python to do the modeling.

Data Scientist, JTA: The Data Scientist

JULY 2018 — APRIL 2019

During these 10 months I worked on several projects. The most remarkable were:

The development of a wireless ECG recorder for Peerbridge Health (New York Start-up), where I was responsible for building the prototype, implementing a compression algorithm and developing a QRS complex detector. To carry out this project I programmed in C - to write to the device - and in R - to develop and test the models.

Development of a market segmentation model for Microsoft (USA). The methodology that I developed is still being used nowadays for the segmentation of the Windows 10 and Office 365 clients. This project was developed in R, and the report was created in Power BI.

Education

PhD, University of Porto, Porto

JANUARY 2021 — PRESENT

The focus of my research is on temporal aware models. My work is being guided by Professor Alípio Jorge and Professor Ricardo Campos.

MSc. Applied Mathematics, University of Porto, Porto

SEPTEMBER 2017 — OCTOBER 2019

This master's degree has made me a scientist able to model and solve problems in various contexts, particularly as part of a research career. I have complemented

Details

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Links

hugosousa.info

LinkedIn

GitHub

Google Scholar

Semantic Scholar

Research Gate

Skills

Python

Pytorch

SQL

C

Git

Bash

my education in more theoretical areas like Statistics and Optimization with more applied areas like Image Processing and Data Mining.

BSc. Physics, University of Porto, Porto

SEPTEMBER 2014 — JULY 2017

In the bachelor's I gained knowledge of Classical and Quantum Physics, learned experimental methods and built a solid background in numerical and computational techniques.

Publications

Hugo Sousa, Alípio Jorge and Ricardo Campos. "tieval: An Evaluation Framework for Temporal Information Extraction Systems." (under review) (2022)

Hugo Sousa, Alípio Jorge and Arian Pasquali. "A Biomedical Entity Extraction Pipeline for Oncology Electronic Health Records in Portuguese." (under review) (2022))

Hugo Sousa. "Temporal Relation Extraction: The Event Ordering Task." DESIRES (2021).

Hugo Sousa. "ECG Compression and QRS Detection: an IoT Approach." (2019).

Courses

European Summer School in Information Retrieval

JULY 2022 — JULY 2022

Lisbon Machine Learning Summer School

JULY 2021 — JULY 2021

Neural Networks and Deep Learning, Coursera

MAY 2020

Sequence models & Attention mechanism, Coursera

JUNE 2020

Others

Member, xSTF, Porto

OCTOBER 2017 — JUNE 2018

I was part of a team at the University of Porto (xSTF) which aimed to solve puzzles. Competing weekly worldwide.

Member, iNIGMA, Porto

SEPTEMBER 2018 — JULY 2019

I was part of the Mathematics students association at the University of Porto.
The most important event we organized was the national meeting of mathematics students (ENEMath'19).

Participant, IJUP, Porto

2019

IJUP is the meeting where young researchers present a project that they have been developing. In the 2019 edition I participated presenting my master's thesis.

Second Place, Eurekathon 2020

NOVEMBER 2020 — NOVEMBER 2020

Volunteer, DSAA21

OCTOBER 2021 — OCTOBER 2021

Web and Dissemination Chair, Text2Story22 Workshop

APRIL 2022 — APRIL 2022