Gloria del Valle Cano

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EXPERIENCE

Data Scientist @ *Grupo TRC*   09/2022 – *Present*

I designed Speech-to-Text and Text-to-Speech models (*transformers*) for Interactive Voice Response systems. I also participated in the development of Computer Vision and biometrics models for a security project with drones.

Research Assistant @ *Autonomous University of Madrid*   01/2022 – 09/2022

I designed and developed the main hate speech algorithm for the Spanish Government and created automatic processes for detecting hate patterns beyond social media. Part of REAL-UP, Combating Hate Speech Project, in collaboration with OBERAXE (State Secretariat for Migration).

R&D Consultant Intern @ *KPMG Spain*   10/2019 – 03/2020

Along with my colleagues, I participated in several AI projects where I explored ways to analyse and manipulate relevant financial information to support R&D regimes.

PUBLICATIONS

SocialHaterBERT: A dichotomous approach for automatically detecting hate speech on Twitter   2023
through textual analysis and user profiles.
Valle-Cano, G. Quijano-Sánchez, L. Liberatore, F. & Gómez, J. Expert Systems With Applications (ESWA).

Detecting Hate Messages on Twitter: A BERT-based Model for the Classification of Hate Speech in Spanish   2021
Valle-Cano, G. Quijano-Sánchez, L. & Gómez, J. Proceedings of the International Congress *Hate and Discrimination in Turbulent Times.*

EDUCATION

MSc Data Science @ *Autonomous University of Madrid*   09/2021 – 06/2023

Studying Advanced Methods in Statistics, Stochastic Processes, Bayesian Methods and Functional Methods, inter alia.

BSc Computer Science Engineering @ *Autonomous University of Madrid*   09/2013 – 06/2021

Studying solutions based on ML, Software Engineering, Database Fundamentals and Complex Algorithms, inter alia. During my studies, I worked in part-time jobs as sales assistant (25-35 hours per week).

PROJECTS

SocialHaterBERT · *Bachelor's Thesis* · [**Grade A**]   09/2020 – 06/2021

A proposal of a combined **BERT-based model** for **hate speech detection**, capable of going further with the features lying in the text. I developed **NLP models** to make a user profile analysis, with its related social environment (**Graph Theory** and **Neo4j**) and generated tweets (**Twitter API**). Conducted in cooperation with the Spanish National Office Against Hate Crimes of the **Ministry of Interior**. This gave me the opportunity to participate in European Crime Prevention Award and Best Practice Conference (BPC-ECPA) where I was able to represent Spain with the SocialHaterBERT project applied to cyberbullying.

COURSES

Natural Language Processing · *National Research University Higher School of Economics*   08/2019
Applied Text Mining in Python · *University of Michigan*   06/2019

SKILLS

Advanced knowledge: Python, C, LaTeX, SQL, Neo4j, NLP, Transformers, Neptune AI.
Intermediate knowledge: C++, R, Lisp, Java, Swift, HTML/CSS, JavaScript, MongoDB.
Languages: English (*Advanced*), Spanish (*Native*), French (*Elementary*).