Gloria del Valle Cano

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EDUCATION

MSc Data Science   September 2021 – *Present*
Autonomous University of Madrid
- Studying advanced methods in statistics and stochastic processes, inter alia.
- Attending to elective courses such as Natural Language Processing, Deep Learning for Image and Video Classification, Bayesian Methods and Functional Methods in Machine Learning.

BSc Computer Science Engineering   September 2013 – June 2021
Autonomous University of Madrid
- Studying solutions based on AI, computer security, systems administration and Big Data.
- Working in part-time jobs as sales assistant for more than 4 years (25-35 hours per week).
- Thesis: *Detecting hate messages on Twitter: a study based on profiles within the social network.* [**Grade A**].

EXPERIENCE

Research Assistant   January 2022 – *Present*
Autonomous University of Madrid · OBERAXE (State Secretariat for Migration)   *Madrid, Spain*
- Part of REAL-UP, Combating Hate Speech Project approved by the Citizens, Equality, Rights and Values Programme (CERV) of the European Commission under the Call: CERV-2021-EQUAL.
- Design and implementation of the main hate speech algorithm for the improvement of an IT tool developed for the Spanish Government under the supervision of my mentor, Lara Quijano-Sánchez.
- Creation of automatic processes for detecting hate speech beyond Twitter.

R&D Tax Consultant Intern   October 2019 – March 2020
KPMG Spain   *Madrid, Spain*
- Drafting scientific and technological descriptions of AI projects.
- Automatizing spreadsheets for the value of claims, apportioned between the different R&D regimes.
- Explored ways to analyse and present relevant financial information to support R&D tax credit claims.

PROJECTS

SocialHaterBERT · *Bachelor's Thesis*   September 2020 – June 2021
- Main title of *Detecting hate speech messages on Twitter: a study based on social network profiles.*
- Conducted in cooperation with the Spanish National Office Against Hate Crimes of the Spanish State Secretariat for Security (Ministry of Interior).
- Proposal for a novel NLP approach for feature analysis based on user profiles, related social environment and generated tweets.
- Development of a combined BERT-based model capable of analyzing features beyond those intrinsically lie in the text for the detection of hate speech on Twitter.

COURSES AND CERTIFICATES

IBM Data Science Professional Certificate (3/10) · *IBM*   July 2021
Python for Data Science · *Coursera Project Network*   July 2020
Natural Language Processing · *National Research University Higher School of Economics*   August 2019
Applied Text Mining in Python · *University of Michigan*   June 2019

PUBLICATIONS

Articles in conference proceedings
- del Valle, G. & Quijano-Sánchez, L.& Gómez, J., *Detecting Hate Messages on Twitter: A BERT-based Model for the Classification of Hate Speech in Spanish*, in Proceedings of International Congress "Hate and Discrimination in turbulent times", 2021, Málaga, Spain.

Awards and achievements

Finalist at European Crime Prevention Award and Best Practice Conference (BPC-ECPA) October 2021

- Entry: SocialHaterBERT: automatic detection and monitoring of hate speech on Twitter through a dichotomous approach based on textual analysis and user profiles.
- Winner of the internal selection process in Spain.

Languages

English: Advanced   **Spanish**: Native   **French**: Elementary

Technical Skills

Advanced knowledge: Python, C, LaTeX, SQL, Neo4j, NLP Transformers.
Intermediate knowledge: C++, R, Lisp, Java, Swift, HTML/CSS, JavaScript, MongoDB.