Gloria del Valle Cano

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Education

MSc Data Science September 2021 – *Present*
Autonomous University of Madrid *60/72 cts completed*

- 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 perfles within the social network.* [**Grade A**].

Experience

Data Scientist September 2022 – *Present*
Grupo TRC *Madrid, Spain*

- Design and implementation of speech-to-text and text-to-speech models in the Spanish language.
- Participation in several AI projects from scratch, with topics such as computer vision and biometric speech recognition.

Research Assistant January 2022 – September 2022
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.
- 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

- Valle-Cano, G. & Quijano-Sánchez & Liberatore F., L.& Gómez, J., *SocialHaterBERT: A dichotomous approach for automatically detecting hate speech on Twitter through textual analysis and user profiles* in Expert Systems With Applications (ESWA), Volume 216, 2023, https://doi.org/10.1016/j.eswa.2022.119446.
- 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.