

## **Bidirectional Encoder Representations from Transformers Sentiment Analysis Applied to Three Presidential Pre-Candidates in Costa Rica**

**Authors :** Félix David Suárez Bonilla

**Abstract :** A sentiment analysis service to detect polarity (positive, neutral, and negative), based on transfer learning, was built using a Spanish version of BERT and applied to tweets written in Spanish. The dataset that was used consisted of 11975 reviews, which were extracted from Google Play using the google-play-scraper package. The BERTO trained model used: the AdamW optimizer, a batch size of 16, a learning rate of  $2 \times 10^{-5}$  and 10 epochs. The system was tested using tweets of three presidential pre-candidates from Costa Rica. The system was finally validated using human labeled examples, achieving an accuracy of 83.3%.

**Keywords :** NLP, transfer learning, BERT, sentiment analysis, social media, opinion mining

**Conference Title :** ICSCAIA 2022 : International Conference on Soft Computing, Artificial Intelligence and Applications

**Conference Location :** Barcelona, Spain

**Conference Dates :** February 15-16, 2022