Project Proposal: CSCI 667

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Automatic Identification and Classification of Bragging in Social Media: Mali Jin, Daniel Preoţiuc-Pietro, A. Seza Doğruöz, Nikolaos Aletras (source of the paper)

General Problem: In this work firstly, a new dataset of tweets interpreted for six different classes of bragging or not bragging is accumulated. Second, a prediction model is generated to classify if a tweet contains bragging or not. Prediction is also made on if a tweet falls under six different types of bragging class (Achievement, Action, Feeling, Trait, Possession, Affiliation) or not bragging at all. Finally, a comparison is made with other models along with a linguistic and error analysis.

Specific Approach: In this work vanilla transformer model is investigated for bragging identification on a new tweeter bragging-based dataset. The experiment is done by using **B**idirectional **E**ncoder **R**epresentations from **T**ransformers (BERT), RoBERTa (a variant of BERT which is more robust and generates better results) and BERTweet (concerned with English tweet using RoBERT as the basis).

The concept of Bragging annotation itself seemed interesting to us. Although online communication plays vital roles in our day-to-day lives, such linguistic analysis on Bragging is yet to be done on a larger computational scale. Therefore, re-evaluation of this paper might enable us to work on such topic more extensively.

Specific hypotheses: Applying the mentioned transformer models such as, BERT, RoBERTa, BERTweet on the dataset to achieve the presented result. For this reason, we will analyze whether the models are reproducible using the binary and multiclass bragging prediction. This concept applies a new layer of classification based on tokens to determine the input class. Moreover, this paper provides a comparison of different baseline classifiers. We will reconstruct those classifiers to verify the comparison data provided.

Additional ablations: The linguistic and error analysis on the implemented bragging prediction model will facilitate us to investigate the shortcomings of the existing model. We will attempt to reduce the error and analyze the factors that tailored the specified result.

Dataset availability: The experimental data along with the filtered annotated data provided as a csv in a public URL. Moreover, the data used in this experiment are extracted from the Twitter Public API which is accessible to everyone. Link to dataset.

Source code availability: The source code for this paper is not available in any public domain. We will attempt to implement the models mentioned using the available data. However, to achieve the appropriate result, the original experimental source code can help to compare the results. For this reason, we will reach out to the authors to get support in implementing the accurate model.

Computational feasibility: The baseline comparison models are naïve classifiers using Bag of Words methods. The complex computation intensive model is BERT which can be possible to instrument as the final filtered dataset to limited to a feasible number of entries. For this reason, These models are reproducible.