NUMERICAL PATTERN IN VARIOUS SENTIMENTS

his paper aims in finding numerical patterns in various sentences. This project aims in giving range of numerical value given a sentence containing complex emotions. Then, the numerical values can be further used to for various other data analytics.

TECHNICAL DESCRIPTION OF PROJECT:-

1.) We are using web-scrapping technique to get various posts in reddit. The dataset used in this project is mainly reddit.

2.) We "Praw" service to scrap reddit data from various relevant sub-reddit's as shown in the code. We create a service(API) with relevant credentials to access the service.

3.) We then use a library called as "spacy" library to create our graph. We load a nlp trained model which gives various functionalities. Though we shall use mainly two functionality :- Tokenization and POS tags.

4.) We create two functions get_entities and get_relations. get_entities gives us nouns and get_relations gives us verb.

6.) We then create **Knowledge Graph** where nodes are nouns and edges are verbs using "networkkx" library. We construct graph for posts representing for each emotions and determine the numerical range for each pattern.

7.)

$$Mathematical\ Formuala :- \ Sigmoid(\sum_{i=1}^{n} ni\ *\ \lambda i)/N\ +\ \sum_{i=1}^{n} \alpha i\ *\ (total\ number\ of\ neighbours)/N$$

+ F

λ = Eigen Vector Centrality α = Katz - Centrality
ni = node
N = Total number of nodes
F = Estrada index

8.) Once the range has been decided. We test it again with various other sentences and found that the similar emotions give out similar numerical values.