**Assignment-4**

1 – How did you design your opinion extraction module with CoreNLP ?

* First I downloaded the CoreNLP
* Since JAVA was already installed checked the version of JAVA
* Started the CoreNLP server
* Created an NLP pipeline with the required properties
* Then the input file is passed to the NLP pipeline and is stored as a output whose type is JSON string.
* Created a dictionary ‘pos\_dict’ to store the word as the key and part of speech as value by going through all the terms in the output variable using for loop.
* To extract ‘*nsub’* and *‘amod’* dependencies I first extract the enhanced dependencies.
* The opinion makes sense when the governor is an adjective and the dependent is a noun.
* Finally, the opinion is added to the extracted opinions dictionary along with the review\_id.

2 – How did you measure the opinion similarity? How do you tune the threshold.

* I am measuring the similarity between both the opinions using the Gensim library
* First I split the opinions into attribute and quality
* Then I check if the words are present in the word2vec object
* If present, calculate the similarity
* If the similarity is more than the defined cosine value, I add that extracted opinion to the similar opinions
* I tune the threshold in increments of 0.2 starting from 0.1 and found that the best threshold is 0.3

3 – Discuss the successful cases that your system can handle

* Cases 3 & 4 are handled correctly by my system in almost all the cosine values.

4 – Discuss the cases that your system fails

* Cases 1 & 2 are giving incorrect outputs in cosine values upto 0.4. Case 1 gives [service, bad] and case 2 gives [service, great]

5 – Output with best threshold

I tuned my system to 0.3. It may give one incorrect opinion in one case which can be disregarded but it doesn’t cut out opinions in other cases

Outputs:

[meal, wonderful] appears in review [ 1 ]

[salad, delicious] appears in review [ 1 ]

[stick, delicious] appears in review [ 1 ]

[service, excellent] appears in review [ 1 , 2 ]

[spots, other] appears in review [ 1 ]

[restaurant, old] appears in review [ 2 ]

[tablecloths, white] appears in review [ 2 ]

[potatoes, mashed] appears in review [ 2 ]

[meat, flavorful] appears in review [ 2 ]

[slaw, delicious] appears in review [ 2 ]

[list, great] appears in review [ 3 ]

[potions, huge] appears in review [ 3 ]

[thing, good] appears in review [ 3 ]

[note, positive] appears in review [ 4 ]

[sandwich, grilled] appears in review [ 4 ]

[option, choose] appears in review [ 4 ]

[selection, great] appears in review [ 4 ]

[server, rude] appears in review [ 4 ]

[restaurant, small] appears in review [ 4 ]

[table, own] appears in review [ 4 ]

[distance, walking] appears in review [ 5 ]

[meals, best] appears in review [ 5 ]

[fan, huge] appears in review [ 5 ]

[service, great] appears in review [ 5 ]

[sandwiches, french] appears in review [ 5 ]

[food, great] appears in review [ 5 ]

[rotation, regular] appears in review [ 6 ]

[food, excellent] appears in review [ 6 , 1 3 ]

[deserts, mini] appears in review [ 6 ]

[deal, great] appears in review [ 6 ]

[selection, good] appears in review [ 6 ]

[quality, bad] appears in review [ 7 ]

[day, bad] appears in review [ 7 ]

[prices, decent] appears in review [ 8 ]

[service, warm] appears in review [ 8 ]

[fish, battered] appears in review [ 8 ]

[good, bad] appears in review [ 8 ]

[service, bad] appears in review [ 9 ]

[fingers, homemade] appears in review [ 1 0 ]

[beer, priced] appears in review [ 1 0 ]

[value, great] appears in review [ 1 0 ]

[menu, large] appears in review [ 1 1 ]

[quality, excellent] appears in review [ 1 1 ]

[menu, entire] appears in review [ 1 1 ]

[specialities, other] appears in review [ 1 1 ]

[favorites, local] appears in review [ 1 2 ]

[feeling, warm] appears in review [ 1 2 ]

[deal, cheapest] appears in review [ 1 2 ]

[order, particular] appears in review [ 1 2 ]

[soup, french] appears in review [ 1 2 ]

[time, wonderful] appears in review [ 1 3 ]

[group, larger] appears in review [ 1 3 ]

[turkey, roasted] appears in review [ 1 4 ]

[food, interesting] appears in review [ 1 4 ]

[taco, good] appears in review [ 1 5 ]

[waiter, slow] appears in review [ 1 5 ]

[time, long] appears in review [ 1 5 ]

[food, cold] appears in review [ 1 5 ]

[group, large] appears in review [ 1 6 ]

[way, bad] appears in review [ 1 6 ]

[options, vegan] appears in review [ 1 6 ]

[salad, greek] appears in review [ 1 7 ]

[fries, great] appears in review [ 1 7 ]

[waiter, attentive] appears in review [ 1 7 ]

[wines, decent] appears in review [ 1 8 ]

[food, fresh] appears in review [ 1 8 ]

[hopes, high] appears in review [ 1 9 ]

[food, ok] appears in review [ 1 9 ]

[ambience, pleasant] appears in review [ 2 0 ]

[pittsburghers, older] appears in review [ 2 0 ]

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query opinion [service, good] has similar opinions:

[service, excellent] appears in review [ 1 , 2 ]

[service, great] appears in review [ 5 ]

[service, warm] appears in review [ 8 ]

[service, bad] appears in review [ 9 ]

query opinion [service, bad] has similar opinions:

[service, great] appears in review [ 5 ]

[service, bad] appears in review [ 9 ]

query opinion [atmosphere, good] has similar opinions:

[feeling, warm] appears in review [ 1 2 ]

[ambience, pleasant] appears in review [ 2 0 ]

query opinion [food, delicious] has similar opinions:

[meal, wonderful] appears in review [ 1 ]

[salad, delicious] appears in review [ 1 ]

[meat, flavorful] appears in review [ 2 ]

[food, great] appears in review [ 5 ]

[turkey, roasted] appears in review [ 1 4 ]

[food, interesting] appears in review [ 1 4 ]

[fries, great] appears in review [ 1 7 ]

[food, fresh] appears in review [ 1 8 ]

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