

## Cognitive Computing and NLP

Problem Statement : Suggest the user suitable books or movies based on his personality traits. Use IBM Watson personality insight service

### Objective :

- 1.) To study and explore IBM Watson personality insights API
- 2.) To learn concept of personality traits and recommendation based on that

### Theory :

- 1) IBM Watson personality insight : It enable users to "gain insight into how and why people think, act and feel the way they do".

Methods used :  
- Linguistic analysis  
- Personality theory.



- 2) Personality models: There are five personality models that identify five types of personalities and every individual falls into at least one of these types.

Models:

- 1) Openness to Experience
- 2) Conscientiousness, (steady & self disciplined)
- 3) Extraversion (confidence & sociability)
- 4) Agreeableness,
- 5) Emotional Stability

- 3) Recommendation based on personality insights:

A recommendation system is supposed to cater to the ~~para~~ choice of the user. One way to determine his or her ~~prediction~~ prediction is to determine their personality and recommend items that is better associated with the personality.

Platform: 64 bit open source Linux

Input: Text, speech, blog etc.

Output: Users personalities trait analysis.



Conclusion: Hence, learned the concepts of users / customers, personality traits recommendation using IBM Watson personality insights.

FAC

### Question 1

Methods for recommender system:

1) Collaborative filtering: It is a ~~feb~~ technique that can filter out item that a user might like on the basis of reaction by similar users.

2) Matrix decomposition: If  $u$  is a vector of interest of  $i$ th user and  $v$  is a vector for  $j$ th film.

$$r_{ij} \approx \langle u_i, v_j \rangle$$

$$\sum (\langle u_i, v_j \rangle - r_{ij})^2 \rightarrow \min$$



$\therefore$  We can estimate  $n$  with a dot product of  $u$  and  $v$ .

Neural Network: The govtype algorithm uses 2 networks to analysis analyze the trends and find the user preference.

## Question 2

Purpose of recommender system:

- 1) To increase sales and conversion
- 2) To increase user satisfaction
- 3) Increased loyalty and share of mind
- 4) Reduced churn