Recommender Systems

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OBJECTIVE:

- The main objective of this assignment is to find a way to calculate sequential recommendations while considering disagreements and satisfactions between the users into account in each iteration.

- We will be using the paper method with some modifications for calculating alpha score.

IMPLEMENTATION:

- Calculate User satisfaction

$$\text{User satisfaction} = \frac{\text{sum of group recommendation scores}}{\text{sum of user recommendation scores}}$$

- Calculate Group satisfaction

Group satisfaction = Mean (satisfaction of all users in the group)

- Calculate Kendall tau disagreements between users so that it will help us understand that how disagreements among the users affect the overall satisfaction.

  Consider 3 users (A,B,C)
  Calculate KT between all users i.e., KT (AB) , KT(BC), KT(AC)
  Calculate mean of KT disagreements between users
  i.e., Mean (KT (AB) , KT(BC), KT(AC))

- Calculate KT disagreements between each user and group

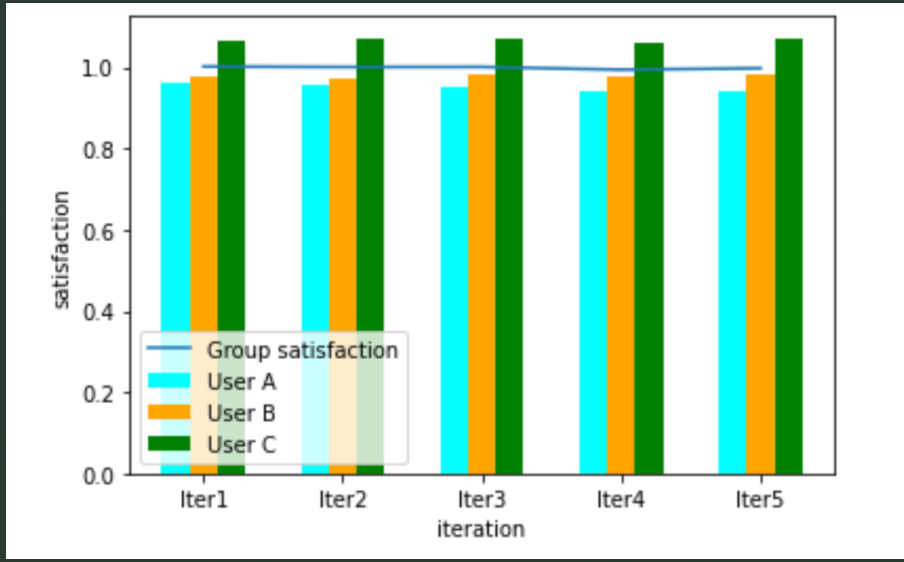
  KT (AG), KT(BG), KT(CG)
  where A,B,C are user's movie recommendations,
  G is group recommendations.
  Calculate mean of KT disagreements between users and group
  i.e., Mean (KT (AG) , KT(BG), KT(CG))

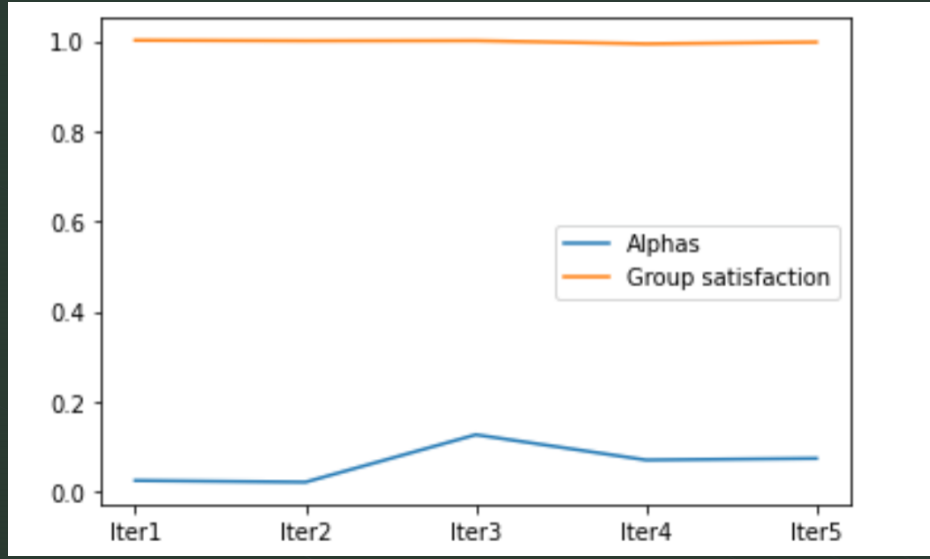
- Calculate alpha (α)

  $\alpha = (\text{Mean} (KT(AB) , KT(BC), KT(AC))) – (\text{Mean} (KT(AG) , KT(BG), KT(CG)))$

- The final movie score is calculated of the particular iteration is calculated as below

movie score = ((1- α) * avgScore) + (α * leastScore)





THANK YOU