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Dating Recommender Systems

* 1. Using a content-based recommendation system, all the predictors in a column would represent key characteristics that the user values in a significant other, the last column would represent whether the user would go on a date with the person, whether classified as a ranking system, or a binary response. Each row would indicate a potential partner that the user has either gone on a date with or rejected. Each candidate would have their characteristics classified accordingly. The dependent variable is the likeliness of going on a date with said candidate, predicted using the characteristics in the columns.
  2. 10-15 attributes
     1. Height
     2. Age
     3. Gender
     4. Eye Color
     5. Smile
     6. Hair Color
     7. Race/Ethnicity
     8. Body shape
     9. Fashion Sense
     10. Facial Hair
  3. There are several challenges in compiling a comprehensive set of attributes to accurately capture an arbitrary person’s preferences. Some things that are valued among certain individuals may play no role at all in determining whether a different person decides to date them. For instance, one person’s top priority can be age, and another person’s priority could be whether someone has facial hair. In addition, some people may not know underlying attributes that greatly affect their dating predictions. If a list of all possible attributes were compiled, even if only accounting for individuals’ number one attribute priority, the list of attributes would still be incredibly long.
  4. Some attributes that may be challenging to acquire their value is smile, body shape, and fashion sense. These values are not easily quantified, and cannot be classified into buckets qualitatively, posing a possible struggle.
  5. Yes, in our setting, there is a challenge to compile a sizeable training data set. This is a challenge because it is best practice to use a large sample size to prevent overfitting; however, this is a challenge because it isn’t likely that a person would have several people lined up to date them. A possible solution is to alter the attributes to be easily identified such as surface level, physical features and looks. After that, it would be easy to use an application such as Tinder to classify whether the user would date the person based off the new attributes.

1. The challenges in using collaborative filtering to accurately recommend potential dates is gathering the possible neighbors. In this situation, each neighbor would have to have rated the same candidates for dates. In addition, the neighbors would have to have already rated the candidate that the user is potentially looking to date. The only solution I could think of is finding several people with similar interests and having them rate each possible candidate; then, the user would have to rate half of the candidates and the other half will be predicted using the collaborative filtering.