Topic Covered: Movie recommendation by KNN
Instructions to the students:

- The completed exercises are given along with explanation to increase your understanding.
- Make your own study group and try to understand it.
- Prepare a one page writeup explanation (in .docx format) for the questions.

Dataset details:
The dataset *movie.csv* contains eductation the data about the different movies.
The column wise details are as follows:
C1: S.No
C2: Name of the movie
C3: Popularity rating
C4: Rating given by different user
C5-C24: Various geners such as — unknown — Action — Adventure — Animation — Children's — Comedy — Crime — Documentary — Drama — Fantasy — Film-Noir — Horror — Musical — Mystery — Romance — Sci-Fi — Thriller — War — Western —
The cleaned data is given in the csv file so that it can directly imported into matlab. In real life problems one has to spend good amount of time in cleaning the data which is not the major intention of this exercise or course.

KNN for movie recommendation

In previous exercise, we have used KNN to classify (binary classification) user in terms of probability of buying iphone based on the salary and age. The process followed is: First we identify the ecludian distance between the test data and all the train data. Then, arrange them in descending order and pick the 'K' closest neighbour to decide the given test data belongs to '0' or '1'.

In movie recommendation, we are not classifying any data. We want to find out closest movies to be recommended to the user for the movie he/she have watched recently. It means identifying the ecludian distance among all the movies in training set and arranging them in descending order will serve the purpose. Select top K closest neighbour if you want to give 'K' recommendation to the user.

Changes are made in knn.m and it returns the s.no of the 'K' closest number to the test movie. These serial numbers are used to print the movie name in $knn_complete.m$ file.

For the test movie of 'star wars (1995)' having s.no 49, the recommended movies are given below:

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Movie you have seen recently: Star Wars (1977)
Recommended movies by KNN algorithm are given below
1 Movie : Star Wars (1977)
2 Movie : Empire Strikes Back, The (1980)
3 Movie : Good Morning (1971)
4 Movie : Return of the Jedi (1983)
5 Movie : L.A. Confidential (1997)
6 Movie : Space Jam (1996)
7 Movie : Kid in King Arthur's Court, A (1995)
8 Movie : unknown
9 Movie : Transformers: The Movie, The (1986)
10 Movie : Jumanji (1995)
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One can find that the movies recommended are similar to gener of the star wars!!! Try changing the movie and infer the result.

To know about additional features which are used in movie recommendation, refer to the following link: Movie recommendation by KNN : Analyticsvidhya

For any clarifications: Reach me at **harimurugan@nitj.ac.in**

All the best