**MedicaNet: Trust based Recommender System to recommend Doctors with the help of Symptoms**

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**Summary** : MedicaNet, which is a smart recommendation system whose sole purpose is to recommend doctors to potential patients based on symptoms provided by the patients. This recommendation system will automatically provide a list of doctors to the patients nearer to them.Creates a network of patients and doctors based on trust scores.It also has a smart review system which will collect user reviews and update doctor ratings, thus affecting the trust scores for better optimization.

**Objectives :**

1. To recommend doctors based on their records to the general public.
2. Creating a channel between patients and doctors.
3. Controlling the practice of passive self-medication.
4. Collect medical data across the country for better analysis of the problems faced by the general public medically.

**Challenges :**

1. Collecting accurate data of symptoms of diseases for accurate prediction.
2. Cold-start problem faced in collaborative filtering for a new user.

**Data :**

1. Data like symptoms , medical record and trusted doctors from the user , filter data based on geolocation.
2. Train : consist of all possible health-related symptoms which we will get mostly unlabelled, focus is to refine and get labelled data , to refine this a cluster of symptoms is created.
3. Model we will also take user text input when it’s difficult for the user to describe the problem with just a single word.
4. A sample survey is done as well to collect real time data on the patients medical history , hospital and doctor preferences.
5. Test : Contains downloaded symptoms vs disorders dataset for validation.

**Methodology :**

1. Classification layer : to classify our data based on collected symptoms – this provides refined data labelling.
2. Trust-Network : among patients , doctors and hospitals. Data is collected by scraping hospital websites , social media sites like LinkedIn, Twitter. Ranking has 1. Generating sentiment analysis from social media feeds. 2. Hospital and Patient records provided by the hospitals, patients as well as the doctors. The data collected from hospitals and websites are essentially characteristics of the doctors like their medical department, experience, publications(if any) and obviously the sentiment value they have in their social web presence. With these features we will generate a rank score or Trust-score to create a network between the doctors, hospitals and patients. Now this trust-score will also be used during our recommendation phase
3. Recommender System – aims to just items to users , here item – list of good doctors or hospitals to the users.Makes use of **content based recommendation** – wherecontent is trust , geolocation , symptoms , monetary value etc.
4. Filtering and Reviewing – output is filtered based on the geolocation and review system where the patient will review the recommendation.Once this is done doctors will take a survey on the performance of doctors + recommendation system.