

Career Recommendation System

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Abstract—Recommendation systems are commonly used over the Internet to guide customers to find the products or services that best fit with their personal preferences. Sometime user have chosen their career path without receiving proper advice from suitable professional or university services. Recommender systems have become increasingly popular in recent years. This recommendation system that provides direction and guidance to User in choosing their career path.

Keywords:Recommender systems

I. INTRODUCTION

Recommender systems emerged as an independent research area around the mid 90's and has since then become a broad research topic with substantial integration of machine learning and information filtering. E-commerce sites use recommender systems for making recommendations that are tailored to a user's preferences. For example, LinkedIn that give recommendation to users for possible connections that they can add to their circles. Recommender systems that make personal recommendations achieve their goal by maintaining profiles for the users that consists of their preferences. The profiles are used as filters, only items that match user's preferences will slip through and be presented as recommendations. Depending on the domain.

Two main filtering approaches for making recommendations that have emerged over the years are collaborative filtering (CF) and content based filtering (CBF).

A. Collaborative filtering

- This filtering is entirely based on the past behavior and not on the context. This makes it one of the most commonly used algorithm as it is not dependent on any additional information.

B. Content based filtering

- Based on similarity of the items being recommended.
- It generally works well when its easy to determine the context/properties of each item. For instance when we are recommending the same kind of item like a movie recommendation or song recommendation.

II. PROBLEM STATEMENT

We are given a data having details of user's professional career. We need to design a module which first read user's profile a based on our data it suggests a career path in terms of skill set to be acquired. On other side, user enters a career goal

and based on this career goal and other related information the module suggest a career path. This project consists of various challenges. One of them is, how to convert descriptive information into feature. Also there are number of job position which describe the similar position, so we need to find a way to group the ones which describes similar position.

III. DATA

A. Data Collection

We have collected user profiles as our data sources. Each user profile contains work experience, education, skills and other additional information. As work experience, the raw data consists of person's current and past job designations, company and projects done by the person.

B. Data Cleaning

Our Data is in JSON format and contained many non-ASCII characters values like bullet points, right arrow and other garbage value. so, we can performed the data cleaning process to remove the garbage values.

C. Data Organization

After cleaning the data we have converted the JSON file to Comma Separated Value (CSV), so that it can be accessed easily through Python.

IV. IMPLEMENTATION APPROACH

I have used the Collaborative Filtering for the recommended system.

Collaborative filtering technique works by building a database (user-item matrix) of preferences by users. It then matches users with relevant interest and preferences by calculating similarities between their profiles to make recommendations. For example, here such users set their skills. An user gets the Career Path recommendations related to user's skill or user's Profile (we have read the user profile first.). Recommendations that are produced by CF can be of either prediction or recommendation.

Prediction is a numerical value, R_{ij} , expressing the predicted score of item j for the user i , while Recommendation is a list of top N items that the user will like the most as shown in Figure 1.

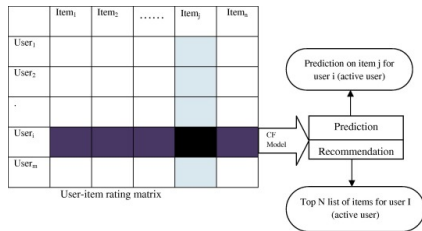


Figure1 : Collaborative filtering Process

V. RESULT

A. Module 1

In the first Module the user profile is selected randomly.it can first reads the user profile and according to user's skills or work experience or Education it recommended the career path.This can be shown in figure 2.

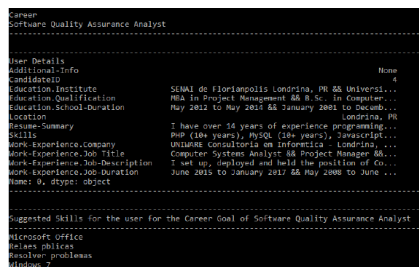


Figure2 : Recommended Career Path

B. Module 2

In the Second Module after reads user profile user is asked to set the career Goal and according to user's career Goal the system recommend the skills which requires to fulfill the goal. This can be shown in figure 3 and figure 4.In figure 3 the career Options are listed and in figure 4 the skills are recommend according to the Career Option choose by the user.

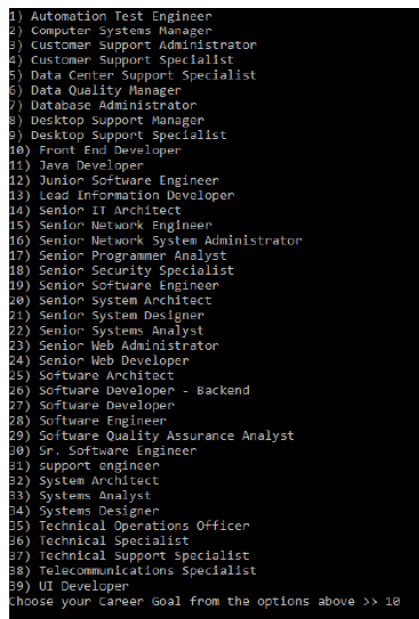


Figure3 : Career Path Options

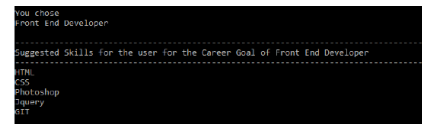


Figure 4 : Recommended skills

VI. CONCLUSION

Recommender systems open new opportunities of retrieving personalized information on the Internet. It also helps to alleviate the problem of information overload which is a very common phenomenon with information retrieval systems. Career Path Recommender system enables users to have suggestions for their career.

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