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Skill / Job Recommender Application– Literature Survey

IBM Team ID -

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1. Job Recommendation based on Job Profile Clustering and Job Seeker Behavior

Authors: D. Mahdi*, R. Moulouki, M. Y. El Gourami, M. Azzouazi, L. Moussaid

Project Description:

- Using an automated recommender system, different jobs/skills are recommended to the user.
- When the application is run, web-scraping techniques are used to gather the data from various job search websites that is processed and examined.
- This model is based on a cluster analysis approach, a self-organized learning technique that aids in grouping job offers based on how similar or different their qualities are to one another.

Constraints:

- We have discussed certain text clustering techniques and related work in this study that are linked to automated recommendation before exposing the principles and guidelines of our suggested model.
- Automated suggestion can help customers identify and select the products based on their needs or based on recommendations from individuals they trust or who have similar likes. It uses simple algorithms like Automated Recommendation, which is divided into Content-Based Filtering and Collaborative Filtering.

Possible solutions:

- Based on a job seeker's prior interactions with particular job offers, it will be easier to match a set of job offers to that job seeker.
- The dataset that is to be used is compiled by scraping job-search websites.
- Concentrate on developing and testing the model by utilizing the Word2vec method and the k-means clustering algorithms to collect and reflect the context of job profiles.

2. Job Recommendation based on Job Seeker Skills: An Empirical Study

Authors:

Jorge Valverde-Rebaza Ricardo Puma Paul Bustios Nathalia C. Silva

Published Month & Year : June, 2018.

Project Description:

- This model is carried out in the form of a proposed framework based on the professional skills of job seekers..
- Carried out an evaluation to quantify experimentally the recommendation abilities of two state-of-the-art approaches, considering alternative configurations, within the suggested structure.

Constraints:

- In this part, we provide a brief overview of two techniques that are used in our experiments
- Word2vec general predictive model for learning vector representations of words are called word embedding.
- Term Frequency-Inverse Document Frequency (TF-IDF) is a strategy that has been successful in identifying topics in huge text datasets.
- Additionally, we show two models that are frequently utilized over Word2Vec: Continuous Bag-of-Words (CBOW) and Skip-gram.

Possible Solutions:

The project focuses on performing a more exhaustive evaluation considering a greater amount of methods and data as well as a comprehensive evaluation of the impact of each professional skill of a job seeker on the received job recommendation.

3. Job Recommendation System Using Machine Learning and Natural Language Processing

Authors : Dublin Smita Sharma, Nikil Nair, Aditi Patil, Tushar Nayak, and Abhinov Bardan Published Month & Year : March, 2020.

Project Description

- Nowadays, the Recommender system is becoming part of every business.
- The business tries to increase its revenue by raising the user's interaction by recommending new items based on user preferences.
- We have witnessed the rise of LinkedIn in the entertainment domain, using their strategies to implement a recommender system into their existing ecosystem.
- There has been a minimal study in the hiring field from the perspective of a job seeker.
- **Keywords**: Recommender system, Job domain, Content-based filtering, Natural language processing, cosine similarity

Constraints:

- This uses the data of the skilled person to get the specific jobs.
- It helps to track the job availability and recommend the job for the client's side approach and consistent- based approach, collaborative approach.

Possible Solutions:

- Based on your skills, it shows the multiple jobs that match your profile.
- The recruiters hire job seekers based on their LinkedIn profile that matches the job requirement.

4. A Research of Job Recommendation System Based on Collaborative Filtering

Authors : Yingya Zhang; Cheng Yang; Zhixiang Niu

Published Year & Month : May, 2014

Project Description:

- Dealing with the enormous amount of recruiting information on the Internet, a job seeker always spends hours to find useful ones.
- Inorder to reduce this time-consuming work, it is required to design and implement a recommendation system for online job-hunting.

Constraints:

This project deliberately uses two approaches:

- Constraint user-based filtering algorithm
- Item-based collaborative filtering algorithm

Possible Solution:

It helps to keep the background information and student's resume by which the user can apply for the candidate jobs using the recommendation system.