

LITERATURE SURVEY

Date	26 October 2022
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Project Name	Skill and Job Recommender

LITERATURE SURVEY-1

TITLE : Job Recommender Systems – A Review

AUTHOR : Sandjai Bhulai, Corne de Rujith

YEAR : 12.11.2021

This article presents a job recommender system suggesting pertinent candidates for an offer posted by a recruiter. To accomplish this task, the data is collected from job recruiting websites then it is prepared through the extraction of appropriate attributes such as job titles, skills and experiences required for the targeted occupation. In a simple way, a job offer can be considered as a document mainly composed of two parts: a title and a job description.

The title summarizes the role or position offered by the employer. The description usually provides the position details, including all the required relevant skills, according to the employer specifications. The proposed recommender system is based on the classification of job profiles. We first extract meaningful features from data by transforming noisy and unstructured textual data into structured formats, so it can be handled more clearly using text analysis algorithms based on topic modeling approach. The structured and cleaned data from job offers is matched with the data from resumes and a weighting of main attribute is set up before rendering the result as sorted recommendations.

In this paper, we presented a job recommender model aiming to extract meaningful data from job postings using text-clustering methods. As a result, job offers are divided into job clusters based on their common features and job offers are matched to job seekers according to their interactions.

Our future Work will focus on training and evaluating our model using Word2vec method and k-means clustering algorithms used to capture and represent the context of job profiles. Subsequently, it will be easy to match set of job offers to a given job seeker based on its past interactions toward specific job offers. The dataset that will be used is built from scraping job search websites.

LITERATURE SURVEY-2

TITLE : A Survey of Job Recommender Systems

AUTHOR : Dr.Shaho Alataibi

YEAR : 11.07.2012

This paper provides a review of the job recommender system (JRS) literature published in the past decade (2011-2021). Compared to previous literature reviews, we put more emphasis on contributions that incorporate the temporal and reciprocal nature of job recommendations. Previous studies on JRS suggest that taking such views into account in the design of the JRS can lead to improved model performance. Also, it may lead to a more uniform distribution of candidates over a set of similar jobs. We also consider the literature from the perspective of algorithm fairness. Here we find that this is rarely discussed in the literature, and if it is discussed, many authors wrongly assume that removing the discriminatory feature would be sufficient.

With respect to the type of models used in JRS, authors frequently label their method as ‘hybrid’. Unfortunately, they thereby obscure what these methods entail. Using existing recommender taxonomies, we split this large class of hybrids into subcategories that are easier to analyse. We further find that data availability, and in particular the availability of click data, has a large impact on the choice of method and validation. Last, although the generalizability of JRS across different datasets is infrequently considered, results suggest that error scores may vary across these datasets.

- Recommender systems can help them find items which they are interested in. For enterprises, recommender systems can improve the loyalty of their customers by enhancing the user experience and further convert more browsers to consumers.

- Recommendation systems are efficient machine learning solutions that can help increase customer satisfaction and user retention, and lead to a significant increase in your business revenues.

- Recommendation engines are a big investment, not only financially, but in terms of time, too: it takes a long time and deep expertise to build an effective recommendation engine in-house.

LITERATURE SURVEY-3

TITLE : Job recommendation system based on Skill Sets

AUTHOR :A.Arun Kumar, B.Senthilnayagi, J.Duraimurugan

YEAR : 08.08.2022

In the current Capitalist world with an abundance of different state-of-the-art industries and fields cropping up, ushering in an influx of jobs for motivated and talented professionals, it is not difficult to identify your field and to persevere to get a job in the respective field but lack of information and awareness render the task difficult. This problem is being tackled by Job Recommendation systems. But not every aspect from the wide spectrum of factors is incorporated in the existing systems. For the "Job Recommendation System - Vitae" machine learning and data mining techniques were applied to a RESTful Web Server application that bridges the gap between the Frontend (Android Application) and the Backend (MongoDB instance) using APIs.

The data communicated through APIs is fed into the database and the Recommendation System uses that data to synthesize the results. To make the existing systems even more reliable, here efforts have been done to come up with the idea of a system that uses a wide variety of factors and is not only a one-way recommendation system.

Based on the current study, the recommendation system works on the content-based filtering using word embedding of word2vec and similarity measure of cosine similarity. As the corpus provides general information about the word and similar words around it, It is possible to create a better recommendation by creating a corpus related to the IT skills, terminology, Job domain and jargon of the industry. By using such corpus specific to the hiring domain, the recommendation could be better when analyzing implicit text data in the job description. It can be categorized in a better way. As this Recsys is currently working on data that has no interaction, a study needs to be conducted on the data that has previous interaction in the hiring domain. This would us to dynamically keep recommending new jobs based on user's change in preferences

LITERATURE SURVEY-4

TITLE : Job Recommendation Based on Cloud App Management

AUTHOR : A. Jorge, R. Campos, A. Jatowt, S. Nunes

YEAR : 2018

In the last years, job recommender systems have become popular since they successfully reduce information overload by generating personalized job suggestions. Although in the literature exists a variety of techniques and strategies used as part of job recommender systems, most of them fail to recommending job vacancies that fit properly to the job seekers profiles. Thus, the contributions of this work are threefold, we: i) made publicly available a new dataset formed by a set of job seekers profiles and a set of job vacancies collected from different job search engine sites; ii) put forward the proposal of a framework for job recommendation based on professional skills of job seekers; and iii) carried out an evaluation to quantify empirically the recommendation abilities of two state-of-the-art methods, considering different configurations, within the proposed framework. We thus present a general panorama of job recommendation task aiming to facilitate research and real-world application design regarding this important issue.

Through personalized email messages and targeted blasts, a recommendation engine can encourage elevated amounts of traffic to your site, thus increasing the opportunity to scoop up more data to further enrich a customer Profile.

The data is collected in real time so the software can react as shopping habits change on the fly.

Shoppers become more engaged when personalized product recommendations are made to them across the customer journey.

Kibo Research shows that 52% of retailers are leveraging AI-driven personalization to deliver personalized product recommendations to their customers.

The volume of data required to create a personal shopping experience for each customer is usually far too large to be managed manually.