LITERATURE SURVEY

Project Title : Skill / Job Recommender Application

Category **:** Cloud App Development

Existing Systems :

1.Technical Job Recommendation System Using APIs and Web Crawling

Year **:** 2022

Authors: Naresh Kumar, Manish Gupta, Deepak Sharma, and Isaac Ofori

ABSTRACT :

There has been a sudden boom in the technical industry and an increase in the number of good startups. Keeping track of various appropriate job openings in top industry names has become increasingly troublesome. This leads to deadlines and hence important opportunities being missed. Through this research paper, the aim is to automate this process to eliminate this problem. To achieve this, Puppeteer and Representational State Transfer (REST) APIs for web crawling have been used. A hybrid system of Content-Based Filtering and Collaborative Filtering is implemented to recommend these jobs. The intention is to aggregate and recommend appropriate jobs to job seekers, especially in the engineering domain. The entire process of accessing numerous company websites hoping to find a relevant job opening listed on their career portals is simplified. The proposed recommendation system is tested on an array of test cases with a fully functioning user interface in the form of a web application. It has shown satisfactory results, outperforming the existing systems. It thus testifies to the agenda of quality over quantity.

2.Job Recommender Systems: A Review

Year **:** 2021

Authors : Corné de Ruijt, Sandjai Bhulai

ABSTRACT:

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.

3. Job Recommender Systems: A Survey

Year : 2019

Authors : Juhi Dhameliya, Nikita Desai

ABSTRACT:

From the last two decades internet based recruiting platforms have become a primary channel in most companies for recruiting talents. Such portals decrease the advertisement cost, but they suffer from information overload problem. Job portals using traditional information retrieval techniques such as Boolean search methods are typically using simple word matching algorithms. The main issue of these portals is their inability to understand the complexity of matching between candidates' desires and organizations' requirements. Hence, a vast amount of deserving candidates misses the opportunity to get an appropriate job. The recent recommender systems have achieved success in e-commerce applications. In order to improve the functionality of e-recruitment process, many recommendation systems approaches have been proposed. In this paper, we present a survey of existing recommendation approaches that have been used for building the personalized recommendation systems for job seekers as well as recruiters. Also we have identified the challenges in building a job recruitment system as compared to recommendation systems in other domain.

4.Job Recommendation through Progression of Job Selection

Year : 2019

Authors : Amber Nigam, Aakash Roy, Hartaran Singh, Harsimran Waila

ABSTRACT:

The task of job recommendation has been invariably solved using either a filter-based technique or through recommender systems where categorical features associated with jobs and candidates are used to generate recommendations. Through this paper, we are introducing a novel machine learning model which uses the candidates' job preference over time to incorporate the dynamics associated with highly volatile job market. In addition to that, our approach comprises several other smaller recommendations that contribute to problems of a) generating serendipitous recommendations b) solving the cold-start problem for new jobs and new candidates. We have used skills as embedded features to derive latent competencies from them, thereby expanding the skills of jobs and candidate to achieve more coverage in the skill domain. Our model has been developed and deployed in a real-world job recommender system and the best performance of the click-through rate metric has been achieved through a blend of machine learning and non-machine learning recommendations. The best results have been achieved through Bidirectional Long Short Term Memory Networks (Bi-LSTM) with Attention for recommending jobs that forms a major part of our recommendation.

5.Career Recommendation Systems using Content based Filtering

Authors : Tanya V. Yadalam, Vaishnavi M. Gowda, Vanditha Shiva Kumar, Disha Girish , Namratha M.

ABSTRACT :

Machine learning is a sub-field of data science that concentrates on designing algorithms which can learn from and make predictions on the data. Presently recommendation frameworks are utilized to take care of the issue of the overwhelming amount of information in every domain and enables the clients to concentrate on information that is significant to their area of interest. One domain where such recommender systems can play a significantrole to help college graduates to fulfil their dreams by recommending a job based on their interest and skillset. Currently, there are a plethora of websites which provide heaps of information regarding employment opportunities, but this task is extremely tedious for students as they need to go through large amounts of information to find the ideal job. Simultaneously, existing job recommendation systems only take into consideration the domain in which the user is interested while ignoring their profile and skillset, which can help recommend jobs which are tailor made for the user. This paper examines existing career recommendation system and highlights the drawbacks of these systems, such as cold start, scalability and sparsely. Furthermore, proposed implementations of career recommendation system using machine learning have been researched in order to identify how the recommender systems introduce features of security, reliability and transparency in the process of career recommendation. In addition, possibilities for improvements in these systems have been explored, in order to design a career recommendation system using the content based filtering approach.