**SMK FOMRA INSTITUTE OF TECHNOLOGY**

**PROJECT**

**JOB AND SKILL RECOMMENDER**

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**LITERATURE** **SURVEY-1**

**TITLE** : Job Recommendation System based on TextAnalysis

**AUTHOR**: D. Mhamdi, R. Moulouki M.Y. El Ghoumari,M. Azzouazi

**YEAR** : 12/04/2020

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 clusteringalgorithms 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** : Job recommender systems Innovationsin Power and Advanced Computing Technologies

**AUTHOR**: Dhameliya, J. and Desai, N.

**YEAR** : 2019

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.

**LITERATURE SURVEY-3**

**TITLE** : Job recommendation system based on machine learning

**AUTHOR**: Jain, H. and Kakkar, M.

**YEAR** : 2019

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** : Web scraping and naïve bayes classification for job search engine.

**AUTHOR**: Slamet, C., Andrian, R., Maylawati, D.S., Darmalaksana, W., Ramdhani, M.

**YEAR** : 2018

Many organisations (government of non-government) use websites to share information of new recruitment for the workers. This information overflows on thousands of sites with various attributes and criteria. However, this availability forms a complex puzzle in the selection process and lead to inefficient runtime. This study proposes a simple method for job searching simplification through a construction and collaboration of web scraping technique and classification using Naïve Bayes on search engine.

This study is resulting an effective and efficient application for users to seek a potential job that fit in with their interests.

Web scrapping technique and naïve bayes classification algorithm implemented in a search engine of job vacancies in Indonesia work well.

Naïve bayes classification algorithm shows optimum performance of classification of job vacancies information. The results of the testing of five-time classification on eight categories show that the algorithm performs consistent accuracy above 70% (the average is 71.87%).

**LITERATURE SURVEY-5**

**TITLE** : Job Recommendation Based on Job Seeker Skills: An Empirical Study.

**AUTHOR**: Jorge Carlos Valverde-Rebaza, Ricardo Puma.

**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.