

LITERATURE SURVEY

1) Amber Nigam, Aakash Roy, Hartaran Singh, Harsimran Waila, “Job Recommendation through Progression of Job Selection”-Georgia Institute of Technology, Atlanta, GA, USA.

This paper, describes about a novel machine learning model that uses the candidates’ job preference over time to incorporate the dynamics associated with highly volatile job market. It produces best outcomes like generating serendipitous recommendations and solve the cold-start problem for new jobs and new candidates .

2) Imane khaouja, Ismail kassou, and Mounir ghogho, (Fellow IEEE) “A Survey on Skill Identification From Online Job Ads”-TicLab, College of Engineering and Architecture, International University of Rabat, Sale 11103, Morocco.

This survey reviews the current research on skill identification from job ads and discuss es possible future research directions. It has reviewed 108 research articles. This survey evaluates and classifies the prior work aiming to identify the skill bases used for analyzing job market needs; the type of extracted skills; the skill identification methods; the studied sector and the skill identification granularity. This project presents the key challenges and discuss recent trends.

3) Shaha T, Al-Otaibi , Mourad Ykhlef “A survey of job recommender systems”-International Journal of the Physical Sciences Vol. 7(29), pp. 5127-5142, 26 July, 2012.

In this survey they have described about the recommender system technology that help users to finds items that match their personnel interests; it has a successful

usage in e-commerce applications to deal with problems related to information overload efficiently. To improve the e-recruiting functionality, many recommender system approaches have been proposed. This article will present a survey of e-recruiting process and existing recommendation approaches for building personalized recommender systems for candidates/job matching.

4) Shibbir Ahmed, Mahamudul Hasan t, Md. Nazmul Hoq, and Muhammad Abdullah Adna” User Interaction Analysis to Recommend Suitable Jobs in Career-Oriented Social Networking Sites”-Bangladesh University of Engineering and Technology, University of Dhaka, Dhaka, Bangladesh

This paper describes about online job hunting websites to predict suitable job postings that are likely to be relevant to the user. Here, they have considered all possible factors related to users as well as job items available in a publicly available partial big data set of a widely used international job hunting website. It has also splitted the interaction data into training and test data for the purpose of evaluating the proposed system. It uses Collaborative Filtering (CF) algorithm separately for user-user and item-item based approach and for hybrid approach, it also have calculated the intersection between user-user and item-item based recommended list and select top-k job items as recommended lists from the intersection. After that, they have compared the predicted recommended list based on all three approaches with the actual list and made offline evaluation of the job recommender system accuracy based on obtained score. Finally they found that hybrid approach performs better than user-user and item-item based approach for entire 90% sparsity of the training data.

5) Amber Nigam, Aakash Roy, Arpan Saxena, Hartaran Singh” Job Recommendation: Leveraging Progression of Job Applications- IEEE International Conference on Cloud Computing and Intelligence Systems(CCIS)

In this paper, the recommendation is composed of several other sub-recommendations that contribute to at least one of a) making recommendations serendipitous for the end user b) overcoming cold-start for both candidates and jobs. One of the unique selling propositions of this methodology is the way they have used skills as embedded features and derived latent competencies from them, thereby attempting to expand the skills of candidates and jobs to achieve more coverage in the skill domain. For recommending jobs through machine learning that forms a significant part in this recommendation, the best results achieved through BiLSTM with attention.

6)Mohamed Amine Barrak, Bram Adams, Amal Zouaq,”Toward a traceable, explainable, and fairJD/Resume recommendation system”

Here Different JD/Resume matching model architectures have been proposed to select relevant candidates for the required job positions. In this proposal, we can see that how modern language models (based on transformers) can be combined with knowledge bases and ontologies to enhance the JD/Resume matching process. This system aims at using knowledge bases and features to support the explain ability of the JD/Resume matching. Finally, given that multiple software components, datasets, ontology, and machine learning models will be explored, we aim at proposing a fair, ex-plain able, and traceable architecture for a Resume/JD matching purpose.

7) Jorge Valverde-Rebaza,Ricardo Puma,Nathalia C Siva,Paul Bustios, “Job Recommendation based on Job Seeker Skills: An Empirical Study” First Workshop on Narrative Extraction From Text (Text2Story 2018) co-located with 40th European Conference on Information Retrieval (ECIR 2018)

In this paper they 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; and also put forward the proposal of a framework for job recommendation based on professional skills of job seekers; and then they carried out an evaluation to quantify empirically the recommendation abilities of two state-of-the-art methods, considering different configurations, within the proposed framework. Thus this paper present a general panorama of job recommendation task aiming to facilitate research and real-world application design regarding this important issue.

8) Punitavathi, Shinu , Siva Kumar , Vidhya Priya , “Online Job and Candidate Recommendation System”- INTERNATIONAL RESEARCH JOURNAL OF MULTIDISCIPLINARY TECHNOVATION (IRJMT)

Here by using Professional Social Recommender (PSR) and Text field filtering the recommendation of jobs and candidates will be classified. Three tier architecture designs have been implemented for efficient data retrieval and data transfer. Here the primary architecture will be the job seeker interface, in followed with candidate recruitment interface and Recommendation database will be interconnected. The professional social recommender will works as a third party agent and the agent will retrieves all the recommended job and candidate profiles. A panel is designed for displaying the recommended job and candidate details.

9)JEEVANKRISHNA “Job Recommendation System Using Machine Learning And Natural Language Processing” Dublin Business School-May 2020

In this paper they recommend the top-n job to the user by analyzing and measuring similarity between the user preference and explicit features of job listing using Content-based filtering, which is devised in support of natural language processing and cosine similarity. The Recommender System is then evaluated using precision, recall, and F1 score (Barrón-Cedeno et al., 2009). The top-n recommendation made to the user is presented in the third tier of the design, a web app deployed in the local server. The presentation layer web-app is developed using Plotly’s dash web framework.

10)Atakan Kara,F.Serhan Danis ,Gunce Keziban Orman,Sultan N.Turhan “Job Recommendation Based on Extracted Skill Embedding”

In this paper, they have extracted skill phrases from unformatted and unstructured CVs and Job Descriptions. Here two approaches with different similarity metrics, namely Word Mover’s Distance and Cosine Similarity is used. The selected TF-IDF with Cosine Similarity as a baseline used to evaluate the method on the real data from an online recruitment company, Kariyer.net. This paper results shows that the previously unstudied Word Mover’s Distance-based approach outperforms Cosine Similarity-based approaches and gives promising results in the job recommendation domain.

