V.S.B. ENGINEERING COLLEGE, KARUR

Department of Computer Science and Engineering IBM NALAIYA THIRAN

LITERATURE SUYVEY

TITLE : Skill and Job Recommender

DOMAIN NAME : Cloud App

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ABSTRACT :

Having lots of skills but wondering which job will best suit you? Don't need to worry! We have come up with a skill recommender solution through which the fresher or the skilled person can log in and find the jobs by using the search option or they can directly interact with the chatbot and get their dream job.

To develop an end-to-end web application capable of displaying the current job openings based on the user skillset. The user and their information are stored in the Database. An alert is sent when there is an opening based on the user skillset. Users will interact with the chatbot and can get the recommendations based on their skills. We can use a job search API to get the current job openings in the market which will fetch the data directly from the webpage.

INTRODUCTION :

Nowadays, searching for a job is somewhat difficult, and it is commonly done through Internet using some sites like LinkedIn, Indeed and others. Commonly, a job seeker has two ways to search a job using these sites: 1) searching jobs based on keywords related to the job vacancy that he/she is looking for, or 2) uploading a professional profile containing data related to his/her education, professional experience, professional skills and others. Sites recommend the company related to our

job expectations. These ways are more popular and have a simpler structure. However, their recommendations are less accurate than those of the sites using profile data.

LITEREATURE SURVEY :

The author describes [1] job recommendation is an important task for the modern recruitment industry. An excellent job recommender system not only enables to recommend a higher paying job which is maximally aligned with the skill-set of the current job, but also suggests to acquire few additional skills which are required to assume the new position. In this work, we created three types of information networks from the historical job data: (i) job transition network, (ii) job-skill network, and (iii) skill co-occurrence network. They provide a representation learning model which can utilize the information from all three networks to jointly learn the representation of the jobs and skills in the shared k-dimensional latent space. In their experiments, we show that by jointly learning the representation for the jobs and skills, our model provides better recommendation for both jobs and skills. Additionally, we also show some case studies which validate their claims.

The author describes [2] that this paper presents a job recommender system to match resumes to job descriptions (JD), both of which are nonstandard and unstructured/semi-structured in form. First, the paper proposes a combination of natural language processing (NLP) techniques for the task of skill extraction. The performance of the combined techniques on an industrial scale dataset yielded a precision and recall of 0.78 and 0.88 respectively. The paper then introduces the concept of extracting implicit skills – the skills which are not explicitly mentioned in a JD but may be implicit in the context of geography, industry or role. To mine and infer implicit skills for a JD, we find the other JDs similar to this JD. This similarity match is done in the semantic space. A Doc2Vec model is trained on 1.1 Million JDs covering several domains crawled from the web, and all the JDs are projected onto That semantic space. The skills absent in the JD but present in similar JDs are obtained, and the obtained skills are weighted using several techniques to obtain the set of final implicit skills. Finally, several similarity measures are explored to match the skills extracted from a candidate's resume to explicit and implicit skills of JDs. Empirical results for matching resumes and JDs demonstrate that the proposed approach gives a mean reciprocal rank of 0.88, an improvement of 29.4% when compared to the performance of a baseline method that uses only explicit skills

The author describes [3] the developed system is job recommendation system for campus recruitment which helps college placement office to match company's profiles and student's profiles with higher precision and lower cost. For profile matching, two matching methods are used: semantic matching, tree-based knowledge matching and query matching. These methods are integrated according to representations of attributes of students and companies, and then the profile similarity degree is acquired. Based on profile similarity degree, preference lists of companies and students are generated. Also students can perform keyword based search for job profiles from various job recruitment sites (e.g. Naukari.com,indeed.com). For obtaining data from online recruitment sites system uses web crawling. With loop matching, matching results would be further optimized and provide more effective guidance for recommendation.

The author describes [4] based on UTAUT2 and the importance of trust to explain user behavior in relation to recommender systems, we focus on job recommender systems by developing and validating a job recommender system acceptance model. The results of our empirical, survey-based study with 440 job seekers indicate that beside performance expectancy and habit, trust is among the three most important determinants and it is especially relevant for women, passive job seekers and those without experience in using job recommender systems. The paper extends general trust and recommender system research by revealing three moderators for the trust and intention relationship. It contextualizes the UTAUT2 by incorporating trust as an antecedent of a consumer's intention to use and by revealing three moderating effects for this relationship. Hence, it is the basis for further studies

investigating the acceptance of job recommender system, which has rather been neglected by prior research.

References :

[1] A Combined Representation Learning Approach for Better Job and Skill Recommendation Vachik S. Dave Indiana University Purdue University Indianapolis vsdave@iupui.edu Baichuan Zhang Facebook Inc baichuan24@fb.com Mohammad Al Hasan Indiana University Purdue University Indianapolis alhasan@iupui.edu Khalifeh AlJadda and Mohammed Korayem CareerBuilder, Inc, Norcross, GA khalifeh.aljadda,mohammed.korayem@careerbuilder.com

[2] Implicit Skills Extraction Using Document Embedding and Its Use in Job Recommendation Akshay Gugnani,1 Hemant Misra2∗ 1IBM Research - AI, 2Applied Research, Swiggy, India aksgug22@in.ibm.com, hemant.misra@swiggy.in

[3] Job Recommendation System Using Profile Matching And Web-Crawling Deepali V Musale 1 , Mamta K Nagpure2 , Kaumudini S Patil3 , Rukhsar F Sayyed4 Students, Computer Science & Engineering, K K Wagh College of Engineering, Nashik, India1 2 3 4

[4] Job Seekers' Acceptance of Job Recommender Systems: Results of an Empirical Study Sven Laumer University of Bamberg sven.laumer @uni-bamberg.de Fabian Gubler University of Bamberg fabian.t.gubler @gmail.com Christian Maier University of Bamberg christian.maier @uni-bamberg.de Tim Weitzel University of Bamberg tim.weitzel @uni-bamberg.de