

LITERATURE SURVEY

Skill / Job Recommender Application

Team ID: PNT2022TMID03200

1. Title : Job Recommendation through Progression of Job Selection

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

Description :

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 through machine learning that forms a major part of our recommendation.

2. Title : A Recommender System For Open Educational Videos Based On Skill Requirements

Authors: Mohammadreza Tavakoli, Sherzod Hakimov, Ralph Ewerth, Gábor Kismihók

Description :

In this paper, it suggest a novel method to help learners find relevant open educational videos to master skills demanded on the labour market. They have built a prototype, which 1) applies text classification and text mining methods on job vacancy announcements to match jobs and their required skills; 2) predicts the quality of videos; and 3) creates an open educational video recommender system to suggest personalized learning content to learners. For the first evaluation of this prototype they focused on the area of data science related jobs. Our prototype was evaluated by in-depth, semi-structured interviews. 15 subject matter experts provided feedback to assess how our recommender prototype performs in terms of its objectives, logic, and contribution to learning. More than 250 videos were recommended, and 82.8% of these recommendations were treated as useful by the interviewees. Moreover, interviews revealed that our personalized video recommender system, has the potential to improve the learning experience.

3.Title: Job Recommendation based in Job Seeker Skills: An Emperical study

Author : Jorge Valverde – Rebazza, Ricardo Puma, Paul Bustios, Nathalia C.silva

Description :

In the last years, job recommender systems have become popular since they successfully reduce information overload by generating personal-ized 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.

4.Title : A Survey of job recommender systems

Authors : Shaha T.Al-Otaibil , Mourad Ykhlet2

Description :

The Internet-based recruiting platforms become a primary recruitment channel in most companies. While such platforms decrease the recruitment time and advertisement cost, they suffer from an inappropriateness of traditional information retrieval techniques like the Boolean search methods. Consequently, a vast amount of candidates missed the opportunity of recruiting. The recommender system technology aims to help users in finding items that match their personnel interests; it has a successful usage in e-commerce applications to deal with problems related to information overload efficiently. In order 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.

References :

[1]https://www.researchgate.net/publication/272802616_A_survey_of_job_recommender_systems

[2]https://www.researchgate.net/publication/325697854_Job_Recommendation_based_on_Job_Seeker_Skills_An_Empirical_Study

[3] <https://ieeexplore.ieee.org/document/9073723/>

[4] <https://ieeexplore.ieee.org/document/9155881/>