# Skill / Job Recommender Application

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## Literature Survey

### Abstract

In this project, the job recommendation systems aim to minimize information overload by helping user's in searching desired job information. Faced with this scenario, we investigate the use of cloud factors able to have a positive influence on generating recommendations. Thus, we present a new, simple model based on cloud features which is associated with the content-based technique of job recommendation. The practical applicability of data storage environments in the cloud provides the best use of cloud resources and meets user's preferences.

In this project we

- Made publicly accessible a new dataset formed by a set of job seekers profiles and a set of job vacancies amassed from distinctive job search engine sites
- Put ahead the proposal of a framework for job suggestion based totally on expert competencies of job seekers
- Carried out an assessment to quantify empirically the advice competencies of two state of-the-art methods, thinking about special configurations, inside the proposed framework.

### Related Projects

## [1] A survey of job recommender systems

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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.

**Key words:** Recommender systems, collaborative filtering, content-based filtering, hybrid approach, machine learning, e-recruiting, similarity measure.

## [2] M. Diaby and E. Viennet, "Taxonomy-based job recommender systems on Facebook and LinkedIn profiles," 2014 IEEE Eighth International Conference on Research Challenges in Information Science (RCIS), 2014, pp. 1-6, doi: 10.1109/RCIS.2014.6861048.

This paper presents taxonomy-based recommender systems that propose relevant jobs to Facebook and LinkedIn users; they are being developed by Work4, a San Francisco-based software company and the Global Leader in Social and Mobile Recruiting that offers Facebook recruitment solutions; to use its applications, Facebook or LinkedIn users explicitly grant access to some parts of their data, and they are presented with the jobs whose descriptions are matching their profiles the most. In this paper, we use the O*NET-SOC taxonomy, a taxonomy that defines the set of occupations across the world of work, to develop a new taxonomy-based vector model for social network users and job descriptions suited to the task of job recommendation; we propose two similarity functions based on the AND and OR fuzzy logic's operators, suited to the proposed vector model. We compare the performance of our proposed vector model to the TF-IDF model using our proposed similarity functions and the classic heuristic measures; the results show that the taxonomy-based vector model outperforms the TF-IDF model. We then use SVMs (Support Vector Machines) with a mechanism to handle unbalanced datasets, to learn similarity functions from our data; the learnt models yield better results than heuristic similarity measures. The comparison of our methods to two methods of the literature (a matrix factorization method and the Collaborative Topic Regression) shows that our best method yields better results than those two methods in terms of AUC. The proposed taxonomy-based vector model leads to an efficient dimensionality reduction method in the task of job recommendation.

## [3] CaPaR: A Career Path Recommendation Framework

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Existing job suggestion structures only reflect onconsideration on the user's subject of pastime and omit the user's profile and skills, which should result in extra relevant career guidelines for users. CaPaR, a Career Path Recommendation framework, is proposed in this paper to address such shortcomings. The gadget scans the user's profile and resume, identifies the candidate's key skills, and generates customized job recommendations using textual content

mining and collaborative filtering techniques. Furthermore, the device suggests to student's extra competencies needed for related job openings, as nicely as learning assets for each skill. As a result, the gadget not only permits its customers to explore big quantities of information, but additionally to enlarge their portfolio and resume in order to enhance their careers.

# Technical Architecture