Career and skills recommendations using data mining technique: matching right people for right profession, in Pakistani context

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Dedication

This dissertation is dedicated to the people of Pakistan who have completed their studies or currently studying and are trying to figure out the best profession for them so that they can apply for the right job which actually suit them.We hope the proposed model for profession recommendations will help jobseekers in Pakistan by recommending them multiple professions according to their studies.

Abstract

Nowadays, recommendation systems are commonly used by the people for finding the products which best match with their individual preferences. In the context of professionand recommendations, a lot of recommendations systems are available on the internet for the help of jobseekers. The systems are performing well and generating job recommendations for people jobs but they have some serious problems that are faced by jobseekers in Pakistan. They are not much intelligent, require a lot of user's time in filling long forms for registration so that they can get recommendations. Moreover they do not give suggestions that which skills will be suitable for a specific profession. A user must has to spend too much time for applying a job and still he doesn't know the skill that is more valuable for him and is it the best job for his skills on which he is going to apply? The problem is that people are not clear in which field they should start or switch working. Actually there is a point that first of all one should be clear about his/her profession and important skills regarding selected professionin which he/she wants to start a career,then he/she should start finding job related to the selected profession.Based on above issues, there is a need to design such a system that can overcome the problem of profession selection and skills suggestions so that it can be easy for a jobseeker to apply for a specific job. In this research, the problem which is discussed above regarding profession and skills recommendations is resolved by proposing a model by using *Association Rules Mining*, a data mining technique. In this model, professions are recommended to job seekers by matching the profile of applicant or job seeker with those persons who have same profile like educational background, professional skills and the type of jobs which they are doing. The data collected for this research itself is a major contribution as we collected it from different sources. We will make this data publically available for others so that they can use for further research.

Acronyms

CV Curriculum Vitae

DMData Mining

HRM Human Resource Management

CF Collaborative Filtering

TF-IDF Term Frequency-Inverse Document Frequency

OCSOffice of Career services

ARMAssociation Rule Mining

AR Association Rule

IDE Integrated Development Environment

JRS Job Recommender System

UMTUniversity of Management and Technology

UOGUniversity of Gujrat

NUSTNational University of Science and Technology

PUPunjab University

UOSUniversity of Sargodha

BZUBahauddin Zakariya University

UOLUniversity of Lahore

UOEUniversity of Education

LUMSLahore University of Management Sciences

NANot Available

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Chapter 1: Introduction

To get a good job is a dream of everyone after completion of studies. At the early stage when a person starts to find a job, he does not have much knowledge and information about the job searching sites and popular areas that actually match with educational background where he/she should apply. Most of the job seekers waste their important time in the searching and applying for jobs. They have lack of proper guidance of finding the dreamed job. It's the era of global world village where people seek to have everything automated. In Recruitment, there are many global as well as local specialized systems available like Rozee.pk, RightJobs.pk, jobee.pk, Indeed.com.pk, etc. All are doing well but they are lacking artificial intelligence in their systems.