

Qualitative Evaluation of Resumes with Integrated Personal Evaluation from Facebook Interactions

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Abstract— Big data is a collection of large datasets with the key characteristics of volume, velocity and variety. In the recruitment domain job seekers post their resumes on different websites and job providers float job descriptions. This paper proposes an approach for recruiters to extract the relevant information from resumes and analyze it based on the technical skills and also analyze the Facebook profile to evaluate the personal skills of the candidate. This helps the recruiters to find suitable candidates for a particular job and make more informed decisions. The attitude analysis is done on the proficiency level of the messages and networking with people. After receiving the scores from attitude analysis, reporting will rank the resumes according to the scores.

Key words: Big Data, Concept Extraction, Qualitative Evaluation, Text Analytics, Resume Parsing, Proficiency Level

I. INTRODUCTION

Every communication over Internet happens through exchange of some data. Due to the increased use of Internet, data nowadays is growing at a huge velocity which also makes data handling a concern. One of the main difficulty in handling such a large amount of data is, the increase in volume in comparison with the advancement in computing resources. The properties associated with big data are variety, volume, variability, complexity and value. Velocity in big data is a concept which deals with the speed of the data coming from various sources and also speed at which the data flows. Variability considers the inconsistencies of the data flow [1]. With the increase in usage of social media loading the data becomes more challenging.

People in many countries consider the internet an effective communication medium and rate the internet as an important recruitment channel. Examples of internet services provided are vacancy announcements, job postings, interviewing, filling online application forms and communicating with recruitment agencies [2]. A resume in general, consists of personal details, education, work experiences, qualifications and so on. Job seekers post their resumes on different websites. For companies it is a difficult and time consuming process to choose the appropriate resume from such a large number of resumes. Research efforts are going on to develop the methods for improving the performance of resume selection process. Statistical information extraction methods apply numerical models to identify structures in given resumes.

An unstructured text analytics approach is used for the qualitative evaluation of resumes. Text analytics approach is the process of analyzing unstructured text, extracting the relevant information and transforming it into structured information that could be done in various ways by taking the advantage of techniques like computational linguistic, statistics and other computer science disciplines.

The purpose of this study is to qualitative evaluation of resumes is done by personal evaluation of resumes from facebook interactions. The rest of this paper is organized as follows, Section 2 discusses about related prior works, Section 3 formulates the problem statement, Section 4 describes the proposed system, and Section 5 is conclusion.

II. RELATED PRIOR WORKS

Several works have been carried in the field of qualitative evaluation of resumes and unstructured text analytics. This section deals with the survey of such very interesting and thought provoking researches which gives an idea of a qualitative evaluation of resumes with integrated personal evaluation from Facebook interactions. The section lists a brief description of the work that is conducted on the above mentioned two aspects respectively.

Organizational support for job placements of students and graduates is the aim of career centre. Authors in paper [3] developed the information system for supporting all main activities. The system strengthens links between students and companies as repository of the CV's and vacancies. On the other side the system should be as a virtual recruiter that take into account students personal abilities and preferences, available jobs, company profiles, account job specification, available human resource to provide the effective decisions on employment. Also presents the intelligent management system based on text mining methods for supporting recruitment services.

To improve the performance of resume selection process the authors in paper [4] proposed an approach to identify resumes by analyzing skill related information. Authors in paper [5] presented linked data approach to discover and aggregate resume information into the web of data. Linked data technology resolves the tasks of heterogeneity, interoperability and data reusing between different data sources and allowing machine process- able data on the web. In paper [6] proposed an ontology driven information parsing system is operated on millions of resumes to convert them into structured format for the purpose of expert finding through the semantic web approach.

To integrate the information of a person on facebook and the friend of a friend ontology is adopted as the destination for integration purposes. Building the database for the facebook user's activity like friend requests, sending messages. The author's idea is to create ontology to model variety of information present in facebook user profiles [7]. The relationship between facebook and the academic performance is done and created through conceptual framework. The Framework consists of two variables with the academic performance. The first variable consists of gender and age i.e personal factors, this part show that whether gender and age affect the academic

performance. The second variable consists of facebook intensity. The three factors are facebook friends, facebook time, emotional connection, which affects the academic performance [8]. Individuals who reveal their relationship status report at higher level of commitment than the individual who do not reveal their relationship status. Different estimates are done on relational status, satisfaction, shared, quality alternatives, investment, commitment, facebook intensity, duration of relationships, gender. Using the facebook intensity scale, facebook use was accessed to measure individual's frequency and use of the social networking sites [9]. In this competitive world, a candidate should possess a powerful resume that brings out the required information in a manner that it stands out among resumes of collection. The database of the company consists of many resumes which are unstructured or semi-structured. These companies require parsed resumes for the recruitment process. The qualitative evaluation of resumes is done by using text analytics approach i.e keyword search which helps recruiters to find the suitable candidate for the job [10].

III. PROBLEM STATEMENT

Recruiters look for the candidates who would work committedly for the company's growth. A Resume plays an important role and it acts as the first impact of a candidate. Qualitative evaluation of resumes with integrated personal evaluation could be done by gathering the information from candidate's face book interactions [11] like communication, networking with people, ability for teamwork and social involvement skills.

A. Objectives:

- Extracting the resume information from websites and analyzing it thereby making the job easier for finding suitable resumes.
- Extracting the messages from facebook by using facebook API, appid, and access token.
- Using neural network classification algorithm text messages will be classified as abusive and non abusive text messages
- Finding the English Proficiency level of the messages.

IV. PROPOSED SYSTEM

In this capitalistic world, resume plays an important role in recruitment process. Hence, collecting the relevant information from each resume and storing it into the database of the company in a particular format would reduce human effort. There are some difficulties of resume service by unions or commercial companies since they consume too much of time, capacity, money, human effort and so on. These companies require filtered/parsed resumes for the recruitment process. Automated recruitment systems require that Job seekers post their resumes on various websites like Indeed.com, LinkedIn, Naukri.com, Monster.com, Resume builder etc. Certain websites may retrieve unwanted resumes while some may provide very minimum number of resumes. This calls for an approach for qualitative evaluation of resumes.

Also, resumes are not complete enough to evaluate person's social skills like communication, networking with

people, ability for teamwork and social involvement skills. This information can be derived from analysis of candidates' face book interactions.

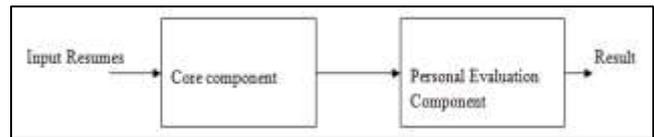


Fig. 1: Overall System Architecture

Figure1 depicts overall system architecture which consists of core component and the personal evaluation component which are described in Figure 2 and Figure 3 respectively.

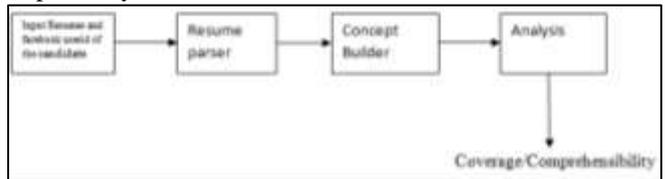


Fig. 2: Core Component

In figure2 core component diagram, each block briefs out the modules,

- Input Resume: Consists of resumes and the facebook userid of the candidates.
- Resume Parser: Conversion of a free form resume document into structured information suitable for storage and reporting.
- Concept builder: After the resume parser building the concept map. It represents information as circles or boxes, with the labelled arrows it connects circles or boxes to form the hierarchical structure. The relationship between concepts can be expressed in linking phrases like causes, requires or contributes. Concept map is defined as technique for visualizing these relationships among different concepts, whether the resumes are covered fully.
- Analysis: It will compare with concept tree, it is a section in resume and it will find whether there are any missing element are there in section and gives the output. It also focuses on three concepts coverage, readability and comprehensibility.
- Readability: It catches the syntactic complexity of the text written in resume, aims at word and structure of the sentence.
- Coverage: It is an qualitative approach as extracting the information from resumes and finding the concepts and sub concepts.
- Comprehensibility: It is parsing the resumes of the text in all the sections and finding the concepts for each of the sections and also identifying the relationship between the concepts.

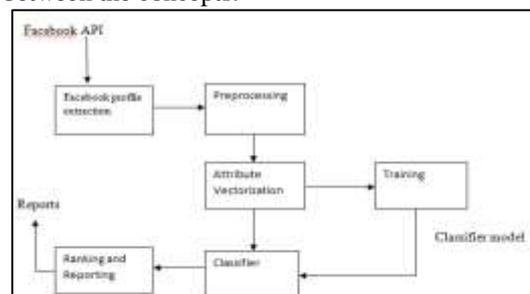


Fig. 3: Personal Evaluation Component

In Figure3 personal evaluation component diagram, each block briefs out the modules,

- Facebook Profile Extraction: The profile information about user is taken from Facebook and are extracted profile features.
- Preprocessing: This is the step where the information is transformed into an understandable format.
- Attribute Vectorization: Vectorizing the attributes of Facebook profiles is done for further processing.
- Training: Training is done on Facebook profile attributes.
- Classifier: This module classifies the trained attribute on specific classifier methods called an SVM KLD classifier and PL Classifier.
- Ranking and Reporting: Thus, module ranks the attitudes and reports it in PDF format.

V. CONCLUSION

Candidates with strong communication skills and social relations skills will be a solid team player. The proposed system will design and implement a tool to examine the employee job attitude using Facebook. It analyzes the employ attitude among coworkers. The score is met from the attitude analysis module, also it organize the scores neatly in a report, so that HR can analyze it easily.

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