

## **SYSTEM FOR PROFILING JOB CANDIDATES**

### **Background**

There are existing job boards/portals on the Internet that facilitate employers to post job advertisements to attract potential candidates to apply for the jobs. The job boards/portals usually allow candidates to search for the potential job opportunities using Job Titles, Company Names, Skillsets and/or Keywords to filter out the interested job opportunities for each candidate based on his/her input.

There are also portals that allow employers to search for potential candidates and review potential candidate's resumes through the employer's databases of registered candidates/members. The search process requires the employers to provide keywords and their Boolean relationship between the keywords to allow the portal's search engine to provide a filtered list of potential candidates. Employers then need to go through each and every one of the filtered candidates' resumes to decide who to shortlist for interview.

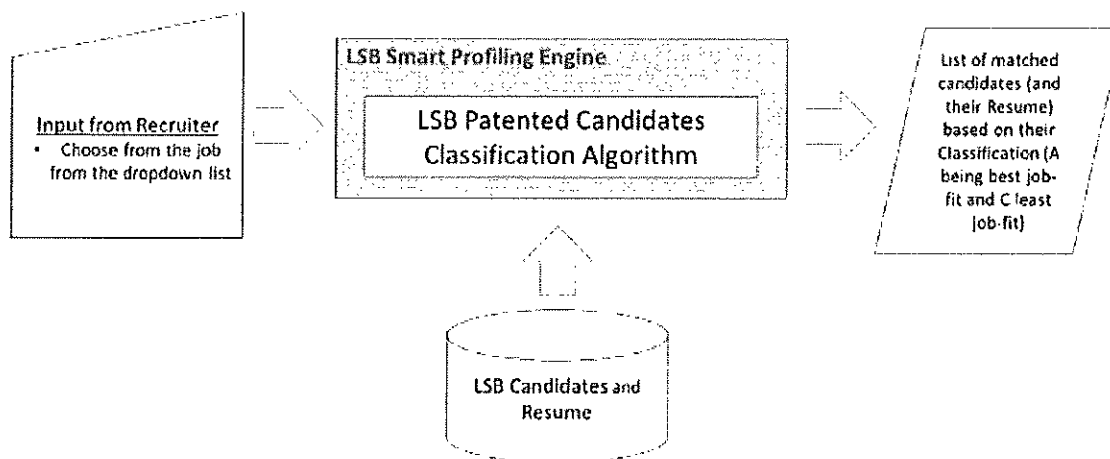
Using such systems means that the quality and success of each filtered list of potential candidates depend on the quality of the candidates in the database, the completeness and accuracy of the resumes of each candidates in the database, and the correct use keywords and their Boolean relationship used as the search/filter criteria. These factors are dependent on the accuracy of the employer's input into the system, which is often very time consuming.

### **Embodiments of Invention**

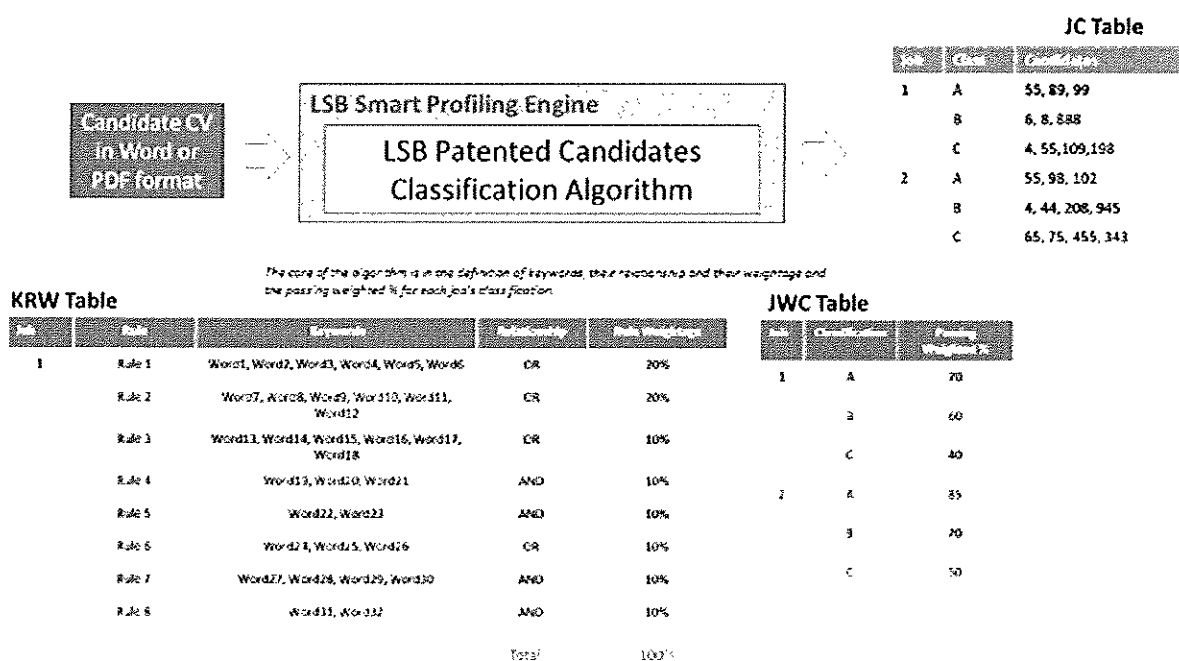
The Smart Profiling Engine (SPE) is designed and built to overcome the problems faced by users of the previously available systems.

The SPE process provides the following features:

1. Intelligently go through each registered candidates' resume and classify them into all the key potential job roles/functions based purely on the suitability to do each job role/function. i.e., candidate X who had been a nurse for years and managed teams of nurses in hospitals and has advanced education in related fields could be classified into job roles/functions like Nurse, Paramedic, Nursing Manager, and Nursing Director.
2. Eliminate the need for the employers to provide the list of keywords and their Boolean relationships.
3. Allow for smart, accurate quick profiling of each candidates to the employers.
4. Develop an SPE that will expand, evolve and learn and be more accurate over time.
5. Allow employers to further refine their search criteria if they choose to do so over the SPE profiled list of candidates.



The SPE is designed and built with the following key components:



### 1. Component 1: Keywords Relationship Weightage (KRW) Table

This table is where the SPE defines rules (unlimited) to how each candidate will be profiled/fit to each job role/function. The basis of the KRW is based on 3 parts being the Keywords, their relationship and their Weightage of importance. SPE will go through each and every candidates' resumes using the KRW Table and the outcome that each candidate will be given a KRW % figure for each job when there is a match of the keywords and its relationships. If a rule is deemed compulsory (as indicated in the Compulsory column), the rule must be met or else the candidate will be given 0% for the KRW% for that particular job.

*The Keywords may be the use of word(s), a sentence(s), symbol(s), number(s) and abbreviation(s).*

Take for example (as per the above figure), for Job 1, if a Candidate 55 has either Word1, Word2, Word3, Word4, Word5 or Word6 in his/her resume. He will be deemed as passing Rule 1 and be accumulated the Rule Weightage assigned (in this case, 20%) and be added into his Job 1 KRW%. But since Rule 1 is a

Compulsory rule, he has to pass it or else he will be given 0% in his Job 1 KRW% regardless of whether his resume met all the subsequent rules in related to Job 1.

Since he met Rule 1, the SPE will go to Rule 2, 3, 4 and so on till Rule 8. His Job 1 KRW% will be accumulated.

Take Rule 4 for example, the SPE will go through his resume to search for Word19 and Word 20 and Word21. If all three keywords are found in his resume, Candidate 55 will be assigned another 10% to his Job 1 KRW%. As long as any of the Word19, Word20 or Word21 is not present in his resume, he will be assigned 0% for Job 1 Rule 4.

After completing matching all the rules in the KRW for Job 1, he will be rated with a Job 1 KRW%. This process will be repeated for Job 2 with Job 2 KRW% starting as 0%. By going through each rule, each keyword is being searched for and matched and be given individual rule KRW% value if the keyword-relationship is met and be accumulated towards each job's total KRW%.

He will be rated with a Job 2 KRW and so on till all the Jobs and Rules are completely tested.

With all the individual Job KRW%, we will next go to the next JWC table for classification. See Component 2.

## **2. *Component 2: Job-Weightage Classification (JWC) Table***

This table is where the SPE defines what KRW % derived from Component 1 (KRW Table) is considered as Class A, B or C. A being the best fit and C being the least fit. Total KRW % for each job is 100%.

Depending on the matching between the KRW % and the JWC definition, a candidate will be classified into Class A, B, C or not classified at all if his/her KRW% is below the cut-off mark of Class C.

Take for example, Candidate 55 has Job 1 KRW% of 70%. He will be classified as a Job 1 Class A candidate. And for Candidate 88 and 89 who have Job1 KRW% of 80% and 90% respectively, they will also be classified as Job 1 Class A candidates. Do note that a candidate cannot be classified into more than 1 class for each job.

At the same time, since Candidate 55 has also accumulated Job 2 KRW% of 80%, he is also classified as a Job 2 Class A candidate. But for Candidate 88 and 89, they have not accumulated Job 2 KRW% of equal or more than 50% (the passing weightage % for Job 2 Class C), they are not assigned to any classes for Job 2.

All the Job-Candidate Classification will be stored in the JC Table. See Component 3.

## **3. *Job Candidate Classification (JC) Table***

This table contains all the matched candidates in the each job Class A, B and C. This is the ultimate outcome of the SPE and will be used to list the candidates in each classification to the Employers.

Each candidate can only be classified into at most a class of each role role/function.

The relationship between each candidate to the potential job roles/functions can be 1 is to x, where x is an integer and inclusive of 0). This means that a candidate has the potential of holding more than 1 job role type in the system.

Employers may choose to further filter from the list provided by adding new keywords and their relationships.