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Resume Ranking System using ML

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Abstract: *Selecting the right candidates for the organization is one of the most important problems of human resources management. Thanks to e-recruiting, candidates now have many ways to find agents online. This manual screening process can prevent teams from finding the right candidates at the right time. A complex screening process can be greatly simplified by using automated systems to screen and evaluate applicants. To update the skills in the recruitment process, machine learning will be used to understand the skills behind it. Using ML (machine learning) to analyze resumes to match the best candidates according to the job requirements is the most important and important thing for every company to hire the best candidates for the job. NLP (Natural Language Processing) and Machine Learning (ML) were used to identify the returned text based on its groups, while MaLSTM model (Siamese Network + Manhattan distance LSTM) was used to classify the candidates based on their status. It is similar to the work described. Sort people.*

Keywords: NLP, ML

I. INTRODUCTION

In the IT industry, reviewing resumes is an important step in finding new candidates with the desired skills. HR teams review thousands of resumes. People come from different professions and have different backgrounds. Each has different types of education, works on different projects and therefore has a unique way of making their qualifications available on demand. Backup files are non-standard files that can be in different file formats (.pdf, .doc, .docx, .jpg, .txt, etc.) and whose contents are not written as a standard model or model. This means it's not fair to read resumes; That's why job seekers spend a lot of time on resumes to select candidates. These requirements will be fulfilled through data extraction. Name, phone number/contact details, email id, qualification, knowledge, skills etc. get information. It can be stored as a design file within a file and later used in different areas/areas.

This job allows recruiters to review multiple resumes to find the best candidate for the job (especially in cases where hiring time is very intense). Applications will be reviewed based on qualifications, including experience, education and skills for the open position. Ultimately, each requirement is scored based on an intelligent comparison with the job description. This project uses machine learning and language processing to automate the process.

II. PROBLEM DEFINITION

Currently, a hiring company needs to review all the requirements for a particular job, which often takes a lot of time. Sometimes qualified candidates are lost because the hiring process is flooded with resumes. Therefore, this article helps recruiters analyze applications for specific jobs using natural language processing (NLP) and other machine learning techniques and then compare them with experience, etc. It develops a process that helps them give points based on their scores.

III. LITERATURE RESEARCH

Dr. K. Satheesh and Prof. A.Jahnavi suggested machine learning as one of the best ways to use language. The model helps the filter operator repeat the process without assistance as per the description. time. Spacy makes the recruitment process simple and efficient by removing the necessary work using the NER model.

Professor Ashif Mohamed proposed a method using Ontology by which we can compare the reworked model with the functional requirements to match the best model with the corresponding candidate ratio. There are two criteria defined

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in the system that will be invoked to assign ranking points to the recommended candidate relative to other candidates in the proposed group

IV. DEPENDENCIES

The dependencies are as follows:

- For User interface node.js and react.js web framework is used.
- Python programming language, NLTK, NumPy, Matplotlib, and TensorFlow are used to parse thedocument and store the information in structured form.
- To get user information form LinkedIn, GitHub there api is used which provides data in structuredformat.

V. SYSTEM ARCHITECTURE

This approach is utilized with a variety of technologies in mind, with the user always coming first. Our main goal is to create a system that is durable and survives the test of time, which also aids in the product's scalability and the user's benefit.

For the application's UI, we have used node.js and react. Any inexperienced user can make efficient use of the User Interface because it is reliable and actually fairly easy.

Our system follows the three tier architecture . The first layer consists of GUI, processing blocks and database.

- **GUI:** In our project, the GUI (Graphical User Interface) is responsible for the user interface where users upload their resumes in any format (PDF, DOC, DOCX, etc.) and links to their social media accounts. The GUI provides a platform for the user to communicate with the database. It serves as a communicator and connector that links the database and facilitates data flow between the GUI and the database.
- **Processing block:** The processing block is the one where our project is actually processed. Thisblock links the GUI to the database, serving as both a connector and a communicator to link thetwo together and facilitate data flow between the GUI and the database. Its major purpose is to parse information from resumes and social media profiles of candidates and store it in a database in an organized format (json). After storing this information this system will give output using web application.
- **Database:** Database tier is the tier used for the storage of data. All the information required forprocessing the entire project is in this tier. The information in this tier relates to the student data that was gleaned from their resumes and social media sites.

VI. SOFTWARE AND HARDWARE REQUIREMENTS

- **Language used** : Python (version 3.8 and above)
- **Software Requirements** *:* Notepad++

Hardware Requirements :

- Processor-Intel(R) Core(TM) i5-6440HQ CPU @ 2.60GHz 2.59 GHz
- Installed RAM-8.00 GB (7.88 GB usable)
- System type- 64-bit operating system, x64- based processor

VII. CONCLUSION

A benchmarking is done to observe the results obtained by the manual process and the resumes recommended by the proposed method through Machine Learning. The results obtained by the proposed method are mathematically and practically much better than traditional methods. Ranking and Re-ranking based on the Hiring Pattern are very useful for next generation Head Hunting solution.

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[7]. Professor Dr.K.Satheesh and , A.Jahnavi proposed a system using advanced Natural Language Processing which is a field in Machine Learning

[8]. Professor Ashif Mohamed proposed a system using Ontology where we can compare the resume models with the given job requirements to match the best comparable candidates

[9]. Professor Sayed Zainul Abideen Mohd Sadiq and Juneja Afzal Ayub Designed an automated system to extract information