

JOB RECOMMENDATION SYSTEM BASED ON SKILL SETS

G.Mahalakshmi¹ , A.Arun Kumar² , , B.Senthilnayaki¹ , J.Duraimurugan¹

¹Teaching Fellow, Department of Information Science and Technology, Anna University Chennai, India ²MCA student, Department of Information Science and Technology, Anna University Chennai, India.

Abstract Machine learning is a sub-field of data science that concentrates on designing algorithms that can learn from and make predictions on the data. Presently recommendation frameworks are utilized to take care of the issue of the overwhelming amount of information in every domain and enable the clients to concentrate on information that is significant to their area of interest. One domain where such recommender systems can play a significant role to help college graduates to fulfill their dreams by recommending a job based on their skill set. Currently, there are plenty of websites that provide heaps of information regarding employment opportunities, but this task is extremely tedious for students as they need to go through large amounts of information to find the ideal job. And many students are not aware of which job is suitable for them. Nowadays, the IT fields are in a boom. Many engineering students are learning some technical skills by doing some courses but they don't know which skill is for which job. Simultaneously, existing job recommendation systems only take into consideration the domain in which the user is interested while ignoring their profile and skillset, which can help recommend jobs that are tailor-made for the user. This paper examines the user's resume then compares the knowledge of degree, soft skills, hard skills, and the projects he has done and then only the system recommends the jobs for that user. The system not only recommends the jobs but also shows the score of his/her resume for the respective job. Then, the system also recommends skills to improve the scores of their resume.

LITERATURE REVIEW

Existing works are mainly found for the company to select a candidate who is fit for their vacancy. There are many experiments for calculating the four recommendation algorithm but with a different distance formula namely the Minkowski distance. And some others are tried a different recommender system like collaborative which only helps when there are more data to relate. That won't help for a person who is searching that which job is the correct choice for him/her. R.J. Mooney and L. Roy used Content-Based Book Recommending where the content-based recommendation helps for a cold start. And some authors also say that a content-based recommender is best when they researched a comparison study of job recommendations.

A recommender system is not only the main part of accurate prediction. There are some other things like vectorizing the words and then similarity functions. Authors like Shouning Qu, and Li-Ping Jing said that for text mining, tf-idf is the best approach for text feature selection. Ravali Boorugu has researched NLP and tried various text summarization techniques. Some papers also say about similarity detection with many languages. JeevamolJoy and Renumol V G discussed which similarity is the best one for a content-based recommending system. They finally concluded that cosine similarity is the best similarity for content based recommended system. Cosine similarity is not only used for recommender systems but is used to find the similarity functions between two sentences or two paragraphs. Mohammad Alobed has tried "A Comparative Analysis of Euclidean, Jaccard, and Cosine Similarity Measure and Arabic Wordnet for Automated Arabic Essay Scoring", and L. Zahrotum also compared jaccard Jaccardidean and cosine similarity. They both said that Cosine similarity with all stemming types has the lowest error compared with the Jaccard and Euclidean similarity. There is already a system that worked with both tf-idf and cosine similarity recommendations. It is used for patient support forums. Tanya V. Yadalam, Vaishnavi, M. Gowda, and Vanditha researched those career recommendations content-based filtering which was mostly like my project but inside it, they mostly discussed security, transparency for the data, and the framework.

Most works are just built for the companies or for the purpose of making money from the people by giving some irrelevant choices. Many were using collaborative recommendation, which recommends the many searched jobs or the jobs which were chosen by some other. It only works if the system deals with more number of resumes which seems it can only be used by the companies. Some systems are asking to log in and some were asked to buy subscriptions. Logging in makes you redirect some spam mails.

In many papers, they have been solved through content recommender which is not enough. A literature paper had done research on content recommender system, tf-idf vectorizer, and cosine similarity in a row but in that the author doesn't think about the implementation process and only concentrated more on securing the data.