SKILL / JOB RECOMMENDER APPLICATION

Abstract:

Insight of having lots of skills but wondering which job will best suit you? Don't need to worry! We have come up with a skill recommender solution through which the fresher or the skilled person can log in and find the jobs by using the search option or they can directly interact with the chatbot and get their dream job. To develop an end-to-end web application capable of displaying the current job openings based on the user skillset. The user and their information are stored in the Database. An alert is sent when there is an opening based on the user skillset. Users will interact with the chatbot and can get the recommendations based on their skills. We can use a job search API to get the current job openings in the market which will fetch the data directly from the webpage.

Keywords: Skill, Jobs, Recruitment, Job Search, Recommendation System, Priority based filteration.

Objectives:

1. To develop an end-to-end web application capable of displaying the current job openings based on the user skillset.
2. The Web Application requires no local storage as the storage used will be IBM cloud and it will help the users find relevant items.

Literature Survey :

S.No	Author Name	Paper Title	Journal/ Conference Title	Page No/ Volume No	Year of Publication	Description

1.	Jorge Valverde-Rebaz, Ricardo Puma, Paul Bustios, Nathalia C. Silva.	Job Recommendation based on Job Seeker Skills: An Empirical Study	First Workshop on Narrative Extraction From Text (Text2Story 2018) co-located with 40th European Conference on Information Retrieval (ECIR 2018)At: Grenoble, France		March 2018	In this paper, new data contains job seeker profile and set of job vacancies and recommendations are made based on professional skills and evaluation is performed of two state-of-the-art methods.
2.	Amber Nigam, Aakash Roy, Arpan Saxena, Hartaran Singh	Job Recommendation through Progression of Job Selection	2019, IEEE 6th International Conference on Cloud Computing and Intelligence System(CCIS)		December 2019	In this paper, we introduce a methodology where we leverage the progression of job selection by candidates using machine learning.Recommendations consists of sub-

						ecommendations for both users and jobs.
3.	Aritra Ghosh, Beverly Woolf, Shlomo Zilberstein, Andrew Lan.	Skill-based Career Path Modeling and Recommendation	2020 IEEE International Conference on Big Data (Big Data)	256	March 2021	In this paper, we propose a novel and interpretable monotonic nonlinear state-space model to analyze online user professional profiles and provide actionable feedback and recommendations to users on how they can reach their career goals.
4.	Bhavya Chawla , Naitik Kansara , Sakshie Pathak , Mr. S. B. Nikam	Job Recommendation System	International Journal For Research In Applied Science and Engineering Technology(IJRASET)	9	March 2021	In this paper, we present our approaches to style employment recommendation system

						for a career based social networking websites. We take a bottom-up approach: we start with deeply understanding and exploring the info and gradually build the smaller bits of the system.
5.	Nikolas Dawson, Mary-Anne Williams, Marian-Andrei Rizoiu.	Skill-driven recommendations for job transition pathways.	Creative Commons Attribution License		August 2021	In this paper, They construct a unique Job Transitions Recommender System that incorporates the skill set distance measures together with other labor market data from job ads and employment statistics.

						The outputs of system accurately predict transitions between occupations (Accuracy = 76%) and arevalidated against a dataset of occupational transitions from a longitudinal household survey.

Drawbacks of Skill/Job Recommender:

- The Lack of the data is the major problem and recommendations can only be made only if data is present.
- There is a need of both users and data, so that good recommendations can be made.
- Job recommendations don't work because there are simply too many product attributes in each domain and each domain (choice, salary, location, work culture, current state of company etc) has a different level of importance at different times for the same consumer.

Problem Definition:

A recommendation engine, also known as a recommender system, is software that analyzes available data to make suggestions for something that a website user might be interested in, such as a book, a video or a job, among other possibilities. Using a recommender system can aid job seekers in locating positions that are right for them. Job offers are first gathered from job search websites, and then they are processed to remove pertinent information like job titles and technical qualifications. Clusters of job offers are formed based on their shared characteristics. If a job seeker likes one position inside a cluster, he or she is likely to prefer other positions within that cluster as well. After comparing data from job clusters and job seeker activity, which includes user activities like applications, likes, and ratings, a list of the top recommendations is presented and displayed.

Proposed Solution:

This project proposes to create a web application and deployment using IBM cloud and as we've seen, the modern job seeker must overcome a number of obstacles before locating a position that suits them. Although all of the current work is very promising, there are some faults in other areas. These problems brought up by earlier research must be resolved, and the systems shortcomings must be reduced. A fully functional user interface supporting a job aggregator and recommendation system is planned for development in the proposed system. Every element of the project is made from scratch and in a unique way.

The proposed system consists of the following four major modules,which are completed as part of this research as follows:

- Data collection and preprocessing followed by the unification of the database.

- Recommendation of suitable results using a hybrid system of content-based and collaborative filtering.

- Development of a fully functional user interface in the form of a web application.
- User preference updating using continuously to improve user base and provide accurate and employable results.