

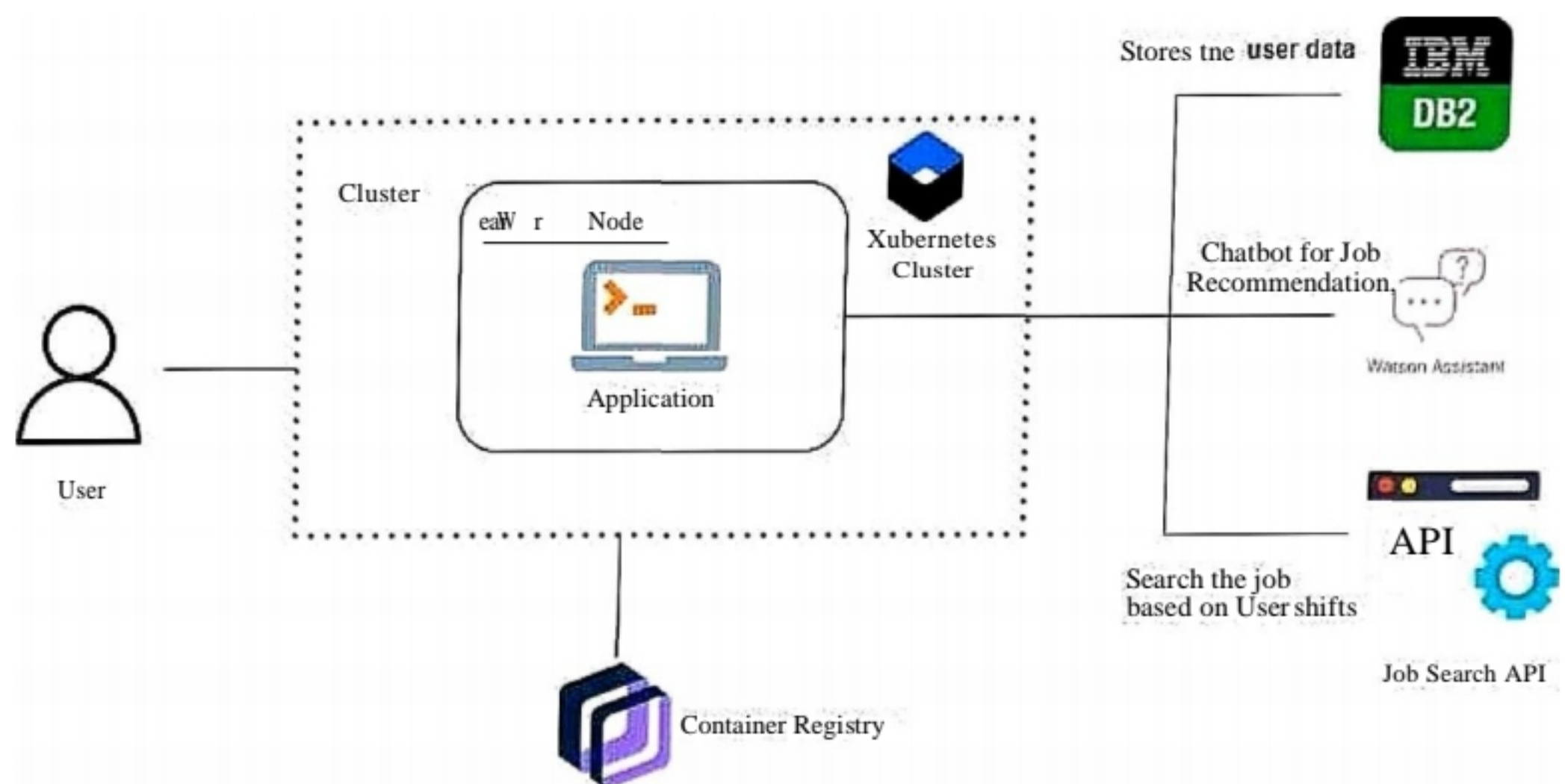
Literature survey on Skill and Job Recommended

Date	19/10/2022
Team ID	PNT2022TMID53971
Project Name	Skill and Job Recommended
Maximum Marks	4 Marks

Problem definition

- 3• The project aims to do at building an application of 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(cloud). An information is sent when there is an opening based on the user skillset. 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

Technical Architecture



Survey Papers

Journal 1

Authors: I. Paparrizos, B. Cambazoglu and A. Gionis

Title: Machine Learned Job Recommendation.

Publisher: Association for Computing Machinery New York, NY,
United States

Year of Publication: October 2011

DOI: <https://doi.org/10.1145/2043932.2043994>

Abstract: In this experiments, it is shown that by jointly learning the representation for the jobs and skills, this model provides better recommendation for both jobs and skills. Additionally it also show some case studies which validate the claims.

Critical view :

- Their proposed representation learning framework is that it is transductive, i.e., it learns representation vectors of jobs and skills that are available in the input graphs.
- 0 In Career-Builder, we often observe new job titles and skills, and their model is needed to be retrained to obtain representation vectors of these entities so that it can utilize in the job and skill suggestion.
- 0 An inductive learning framework is needed to overcome this limitations.

Journal 2

Authors: Yao Lu, Sandy El Helou, Denis Gillet.

Title: A Recommender System for Job Seeking and Recruiting

Publisher: Association for Computing Machinery New York, NY, United States.

Year of Publication: May 2013.

DOI: 10.1145/2487788

Abstract : In this paper, a hybrid recommender system for job seeking and recruiting websites is presented. The various interaction features designed on the website help the users organize the resources they need as well as express their interest.

Critical view :

- 0 The user studies and evaluations based on online data is not conducted to evaluate the accuracy and usability.
- 0 Other characteristics of the proposed recommender system are not refined accordingly.
- 0 A preliminary evaluation based on dataset from production website shows that their system out performs content — based profile match and collaborative filtering on recommendation precision and user coverage.

Journal 3

Authors: W. Shalaby, B. AlAila, M. Korayem, L. Pournajaf, K. AlJadda, S. Quinn

Title: Help Me Find a Job : A Graph-based Approach for Job Recommendation at Scale

Publisher: IEEE

Year of Publication : December 2017

DOI: 10.1109/BigData.2017.8258088

Abstract : Existing systems are mostly focused on content analysis of resumes and job descriptions, relying heavily on the accuracy and coverage of the semantic analysis and modeling of the content in which case, they end up usually suffering from rigidity and lack of implicit semantic relations that are uncovered from users behaviour and could be captured by Collaborative Filtering methods (CF).

Critical view :

- 0 CareerBuilder serves job seekers in more than 24 countries with different spoken languages.
- Extending the content-based deep learning matcher to languages other than English in order to effectively bring the GBR to serve non-english speaking countries is a priority.
- 0 Deep learning approaches pave the way towards language agnostic NLP tools, so looking to train more models to capture the similarity between job postings for different languages

Journal 4

Authors: S. Choudhary, S. Koul, S. Mishra, A. Thakur and R.Jain

Title: Collaborative Job Prediction based on Naïve Bayes Classifier using Python Platform

Publisher: IEEE

Year of Publication: October 2016

DOI: 10.1109/CSITSS.2016.7779375

Abstract: The paper aims to implement recommendation system based on collaborative filtering technique for job portals. The system is designed to suggest the jobs to the user depending upon his profile and by calculating a similarity index using Euclidian distance of two skill sets and then ranking them according to their Naïve Bayes Algorithm.

Critical view :

- 0 During application process often request sensitive information that could be used to steal an applicant's identity or commit financial fraud.
- 0 Data acquired through an online form that is then transmitted or stored in an insecure manner can be vulnerable to exploitation.
- 0 While it is also true that information on paper applications can be appropriated for illegal purposes, poor online security exposes applicant data to a much larger audience.

Journal 5

Authors: Jorge Valverde-Rebaza, Ricardo Puma, Paul Bustios, Nathalia C. Silva

Title: Job Recommendation based on Job Seeker Skills: An Empirical Study

Publisher: A. Jorge, R. Campos, A. Jatowt, S. Nunes (eds.): Proceedings of the Text2StoryIR'18 Workshop, Grenoble, France

Year of Publication: March 2018

DOI: <https://www.researchgate.net/publication/325697854>

Abstract: The contributions of the work are, they made publically available a new dataset formed by a set of job seekers profiles and a set of job vacancies collected from different job search engine sites, put forward the proposal of a framework for job recommendation based on professional skills of job seekers.

Critical view :

- Their work will focus on performing a more exhaustive evaluation considering a greater amount of methods and data as well as a comprehensive evaluation of the impact of each professional skill of a job seeker on the received job recommendation.
- A certain profile with a proper representation, selecting a group of the nearest job offers based on the distance to that profile.

Hardware & Software Requirements

System Required:

8GB RAM, Intel Core i3, OS-Windows/Linux/MAC , Laptop or Desktop

Software Required:

Python, Flask , Docker