



Experimental Paper on Job Recommendation System Via Social Media Using Machine Learning

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ABSTRACT

There are only a few percent of Software Engineering graduates in India who can land a job that they enjoy. The primary cause of this issue is a dearth of enthusiasm, expertise, resources, and academics capable of formulating the realistic demands of the actual world. Even if a student or a developer is enthusiastic about his or her abilities, recruiters generally look at academic performance as the primary criterion for hiring a developer. In order to address this issue and make it easy for both software developers and hiring institutions, we are developing a single platform. The developer will be able to share his expertise and difficulties with the IT community using this app, which includes all of the latest characteristics of a social media. Build and Collaboration spaces will also be included in this programme, where the developer can examine, manage, and track his work. Recruiters will also be able to use this programme. Recruiters can choose from a selection of developers based on the specifications they supply. The Messaging platform can also be used by recruiters to communicate with other developers.

Keywords—Collaborative filtering, job, Recruitment, recommendation.

Introduction

As a result of the information overload that many online shoppers experience, recommender systems have been widely embraced by a large number of websites. Users looking for work can take advantage of popular recommendation techniques like collaborative filtering (CF) and content-based filtering in social media. CF bases its suggestions on the premise that people who have expressed an interest in and given high ratings for one item are also likely to have similar tastes in other things. Users' interests are assumed to be reflected in the content of articles they've shown interest in, and recommendations are made based on posts with content descriptions that match the target user's preferred jobs. In this paper, we take advantage of user posts to better understand the needs of users and to create a job recommendation system based on user reviews. The job features can be represented by the concealed subjects in the review texts. It takes into account both the app's topic distributions.

Related work

Students were asked to fill out a learning style questionnaire. Students' individual learning styles were predicted by authors S. Graf, Kinshuk, and Tzu-Chien Liu in the study "Identifying Learning Styles in Learning Management Systems by Using Indications from Students' Behaviour" [2] using the Felder-Silverman learning style model. The usage of this rule-based system had several limitations, such as the consideration of only certain learning styles.

According to the paper "Advanced Adaptivity in Learning Management Systems by Considering Learning Styles" by authors S. Graf and Kinshuk [3], students are given with courses according to their learning style. Students' learning styles change over time, thus an adaptive generic mechanism is used to keep them on track. Y. Li and Z. Wang employed Fuzzy sets in their study "Adaptive reinforcement Q-Learning method for swarm-robot system using pheromone mechanism" to represent students' knowledge levels and dynamically update preconceptions of users.

[4] In this case, however, just the components of the system have an effect on how well it performs. Job records are used to build user demand models such as job-resume matching models, as demonstrated in the work "A Resume Recommendation Model for Online Recruitment" by Z. Wang and X Tang [6].

Performance and interest of the candidate are not taken into account when using a genetic algorithm. User Behaviour Analysis and Commodity Recommendation for Point-Earning Apps" by authors Y. C. Chen, CC Yang, CJ Liao, CH Chang [7] uses a variety of methods, including traditional classifier, heuristic scoring, and machine learning to build recommendation systems and integrate content-based collaborative filtering (CCAM) to create a hybrid recommendation system. In order to improve prediction accuracy, crawlers are utilised to gather data from regular consumers. Other considerations like the time of day or geographic location are not taken into account while making the recommendation.

Proposed System

- Content-aware collaborative filtering is the integration of content-based recommendation and collaborative filtering.
- Our proposed algorithm targets content-aware collaborative filtering from implicit feedback and successfully address the disadvantages by treating the items not preferred by users as negative while assigning them a lower confidence for negative preference and achieving linear time optimization.
- Accuracy is high.

System Architecture

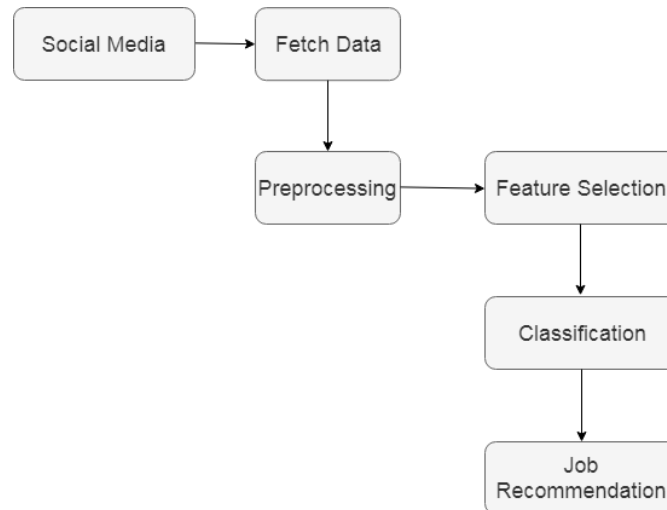
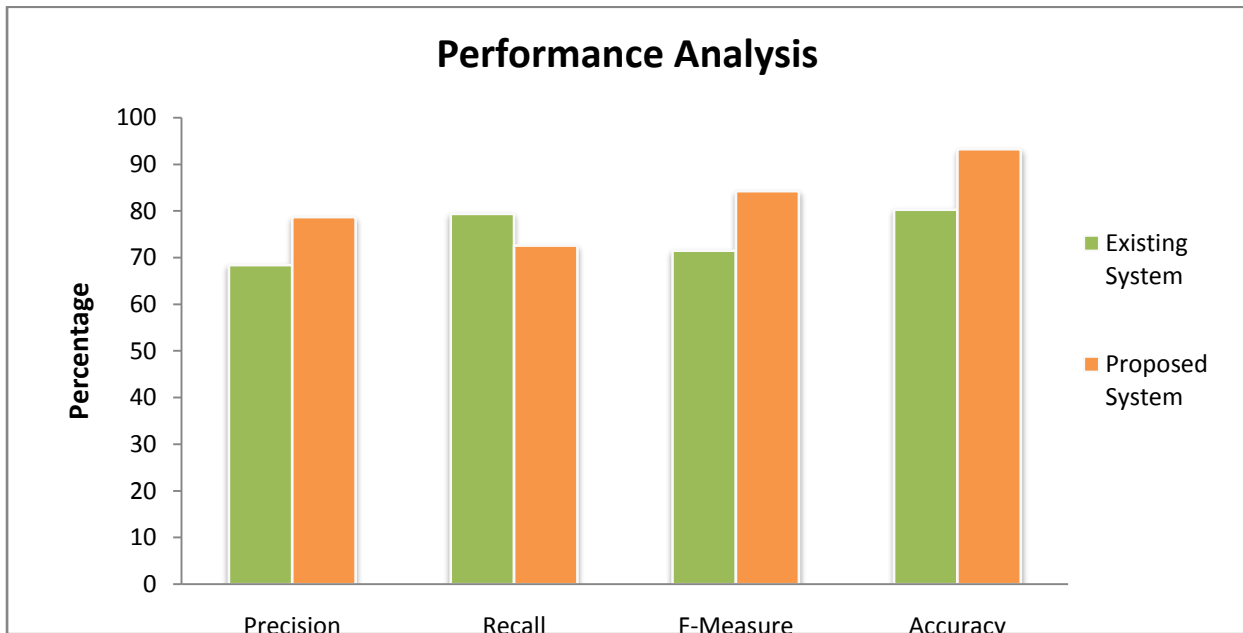


FIG 1. SYSTEM ARCHITECTURE

Result and Discussion

The experimental result evaluation, we have notation as follows:

- TP: True positive (correctly predicted number of instance)
- FP: False positive (incorrectly predicted number of instance),
- TN: True negative (correctly predicted the number of instances as not required)
- FN false negative (incorrectly predicted the number of instances as not required),
- On the basis of this parameter, we can calculate four measurements
- Accuracy = $\frac{TP+TN}{TP+FP+TN+FN}$
- Precision = $\frac{TP}{TP+FP}$
- Recall = $\frac{TP}{TP+FN}$
- F1-Measure = $\frac{2 \times \text{Precision} \times \text{Recall}}{\text{Precision} + \text{Recall}}$.



Parameters	Existing System	Proposed System
Precision	68.45	78.70
Recall	79.44	72.64
F-Measure	72.11	84.31
Accuracy	80.29	88.26

Conclusion

There are only a few percent of Software Engineering graduates in India who can land a job that they enjoy. As a result, we're facing an existential crisis due to a dearth of the necessary passion, expertise, resources, and academics to meet the demands of today's global marketplace. Even if a student or a developer is enthusiastic about his or her abilities, recruiters generally look at academic performance as the primary criterion for hiring a developer. In order to address this issue and make it easy for both software developers and hiring institutions, we are developing a single platform. The developer will be able to share his expertise and difficulties with the IT community using this app, which includes all of the latest characteristics of a social media. Build and Collaboration spaces will also be included in this application so that the developer can keep track of and manage his projects and talents. Recruiters will see a different version of this application. Recruiters can choose from a selection of developers based on the specifications they supply. The Messaging platform can also be used by recruiters to communicate with other developers.

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