

Improving Students Informations Literacy Based On Machine Learning

Swetha A, Sneha R, Sathiyadharshini B

*UG Scholar, Department of CSE, A.R.J College of Engineering and Technology,
Mannargudi, Thiruvarur, Tamilnadu-614 001, India*

Kavitha R

*Assistant Professor, Department of CSE, A.R.J College of Engineering and Technology,
Mannargudi, Thiruvarur, Tamilnadu-614 001, India*

Abstract: The Recommender systems, also known as recommendation engines are a relatively new but extremely in demand machine learning application being extensively used by websites. Information literacy is a basic ability for college students to adapt to social needs at present and it is also a necessary quality for self-learning and lifelong learning. We use Optimization algorithm assumes the similarity between the new case/data and available cases and put the new case into the category that is most similar to the available categories Optimization algorithm stores all the available data and classifies a new data point based on the similarity. This means when new data appears then it can be easily classified into a well suite category by using Optimization algorithm. A composite approach, which makes non inclusive use of basic techniques more especially, deep learning techniques is a useful way to achieve the same goal. They achieve the function of a highly intelligent and responsive virtual salesman on the website by recommending or pitching an idea to the customers in which he/she might be potentially interested. The primary purpose of recommender systems is broadening the profit of the enterprise by simulating sale of maximum products to a customer and to enhance the user experience of the website. Such recommender systems are being widely developed using machine learning concepts, implemented by the Python language, by online enterprises big and small all across the globe. This work exhibits a recommender scheme for an e-learning website which bids various online learning behavior characteristics to its users for learning new skills on an online platform. A new data point is classified by the optimization algorithm on the basis of similarity after store and view all data. A composite method is functional to implement the same which in turn us basic methods namely deep learning techniques a non-inclusive manner. Deep learning is a type of recommender system that attempts to guess what a user may like based on that user's activity. Deep learning makes recommendations by using keywords and attributes assigned to objects in a database.

1. Introduction

The Recommender systems, also known as recommendation engines are a relatively new but extremely in demand machine learning application being extensively used by websites. Information literacy is a basic ability for college students to adapt to social needs at present and it is also a necessary quality for self-learning and lifelong learning. We use Optimization algorithm assumes the similarity between the new case/data and available cases and put the new case into the category that is most similar to the available categories Optimization algorithm stores all the available data and classifies a new data point based on the similarity. This means when new data appears then it can be easily classified into a well suite category by using Optimization algorithm. A composite approach, which makes non inclusive use of basic techniques more especially, deep learning techniques is a useful way to achieve the same goal. They achieve the function of a highly intelligent and responsive virtual salesman on the website by recommending or pitching an idea to the customers in which he/she might be potentially interested. The primary purpose of recommender systems is broadening the profit of the enterprise by simulating sale of maximum products to a customer and to enhance the user experience of the website. Such recommender systems are being widely developed using machine learning concepts, implemented by the Python language, by online enterprises big and small all across the globe. This work exhibits a recommender scheme for an e-learning website which bids various online learning behavior characteristics to its users for learning new skills on an online platform. A new data point is classified by the optimization algorithm on the basis of similarity after store and view all data. A composite method is functional to implement the same which in turn us basic methods namely deep learning techniques a non-inclusive manner. Deep learning makes recommendations by using keywords and attributes assigned to objects in a database.

2. Literature Survey

Xiaoyan yin, et. al (2023), Blended learning is a learning style that combines a portion of learning materials and learning activities through an online learning platform. By studying the characteristics of online learning behaviors of freshmen in blended learning, we can further help them to better carry out their undergraduate study life. Through the study of online learning behavior characteristics of freshmen participating in blended learning, this article finds that: (1) Learners with siblings are more engaged in online learning behaviors than those without siblings, and the difference in forum participation is most significant. (2) Using K-means clustering analysis, learners can be classified into four categories based on their online learning characteristics learners: Comprehensive learners, Performance-oriented learners, Social learners and Task-oriented learners.

Xianwei Li, et. al (2022), When the behavior recognition model is used to recognize the violation behavior of underground operation, the surface characteristics of the skeleton sequence are mainly obtained by the simple feed-forward neural network, which leads to the low mAP value of the recognition result. In order to solve this problem, deep learning technology is integrated into the process of behavior recognition, and a new method of underground operation violation recognition is designed. Firstly, the image data of underground operation behavior is collected, and the data is enhanced by the Cut Mix algorithm. And then a three-dimensional skeleton sequence of that human body is established. The running data of the skeleton distance and the skeleton angle are calculated, and the visual angle in-variance characteristic of the human body skeleton is obtained. Finally, the convolution neural network is used to build a behavior recognition model based on deep learning, extract the surface and deep Spatio-temporal fusion features of the skeleton sequence, and output the violation identification label.

Zhu Long, et, al (2021), With the advent of the information age coming, the Blended Learning mode combining real classrooms and online teaching has gradually become a research hotspot in the field of education at home and abroad. In the process of implementing the teaching mode, students have produced a great deal of data related to their learning behavior, thus data mining and students' behavior analysis can play a guiding role in the learning process. Taking the "Data Structure" course as a practical case, this paper investigates the relationship between the learning behaviors and effects of this course, analyzes the deficiency in the Blended Learning mode, which provides strong support for improving the quality of education.

Charles Lwande, et, al (2019), Learning Management Systems (LMS) lack automated intelligent components that analyse data and classify learners in terms of their respective characteristics. Manual methods involving administering questionnaire related to a specific learning style and cognitive psychometric tests have been used to identify such behaviour. The problem such method is that a learner can give inaccurate information, time consuming and prone to errors. Although literature reports complex models predicting learning styles, only a few have used machine learning methods such as k-nearest neighbour (KNN). The primary objective of this study was to design, develop and evaluate a model based on machine learning model for predicting LS from LMS log records. Approximately 200,000 log records of 199 students who had accessed e-Learning course for a 15-week semester were extracted from LMS to create a dataset. Machine learning concepts were identified from the log records. The dataset was split into training and testing set.

3. Proposed System

One new method in learning behaviour characteristics recommendation systems is deep learning-based recommendation systems. Learning Behaviour Characteristics recommendations are an emerging solution that can help students overcome the issue of cognitive overload. Deep learning techniques-based recommendation systems use deep neural networks to learn representations of learning behaviour characteristics and users, and then use these representations to make recommendations. These systems can take into account a wide range of features and interactions between learning behaviour characteristics and users, and can provide highly personalized recommendations. Optimization algorithms and deep learning techniques are utilized to pre-process and clean user uploaded interest skills data. During training, the neural network learns representations of learning behaviour characteristics and users that capture their features and interactions. It Use the learned representations to make recommendations. This could involve finding the most similar learning behaviour characteristics to a given learning behaviour characteristics or user, or predicting the rating that a user would give to a given learning behaviour characteristics. By implementing this comprehensive and innovative system, educators and researchers will be better equipped to analyze learning behavior characteristics effectively, thereby informing evidence-based strategies for improving students' information literacy skills and fostering lifelong learning competencies.

4. System Architecture

In the realm of educational data analysis, the foundation lies in the training dataset, a comprehensive collection of student learning behavior characteristics spanning their academic history. Preprocessing and cleansing this dataset is crucial to identify pertinent learning behavior patterns, a task facilitated by deep learning techniques optimized through algorithms like decision trees and sigmoid functions. During the testing phase, the testing data is scrutinized, yielding results that recommend future learning behavior characteristics. This cyclical process refines our understanding and application of learning analytics, ensuring tailored educational interventions and advancement .

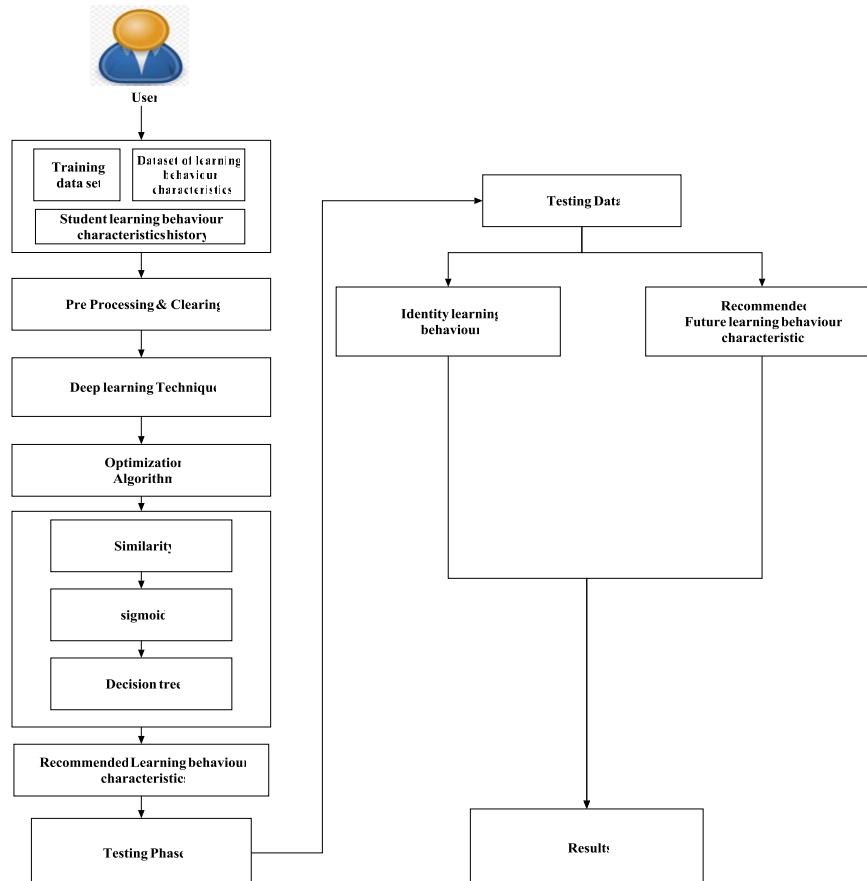


Figure 3.3: Diagram of System Architecture

5. Implementation

File Explorer: File Explorer is the new Windows Explorer. File Explorer has quite a history, going all the way back to the days of MS-DOS. Over the years, the tool now known as File Explorer has evolved. It used to be called File Manager, and for a long time it was called Windows Explorer. With the release of Windows 8, Windows Explorer is now known as File Explorer.

Task Manager: With the new Task Manager, it can quickly see running programs and can also end tasks if there is an issue. But IT pros and power users frequently want to see more information about the running tasks and the overall status of the system. By clicking More Details, it sees a significant amount of information about the processes running on either PC, its performance. Merely looking at the available tabs reveals that there is a lot of information and many options here. Like File Explorer, the Task Manager interface has been redesigned to serve the needs of all types of users.

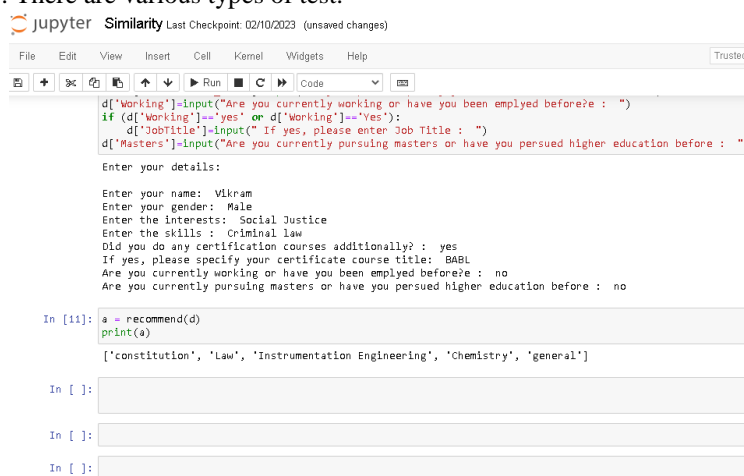
Profile Customization: Profile customization in Windows 8 is simple. Both roaming and local profiles are available in Windows 8. Roaming profiles allow user customizations to be saved remotely and accessed on any Windows 8 machine. Local profiles are stored locally on the file system volume just like those in previous versions of Windows. To manage the user experience for generating local profiles, Sysprep is available in Windows 8. Default customizations can be packaged, just like in Windows 7, and redeployed in the out-of-box experience (OOBE) after system imaging is performed.

Networking Enhancements: Windows 8 and Windows Server 2012 provides new features and resources when deployed together. Many new features that IT pros love about Windows Server 2012 are optimized for use with Windows 8 clients. In fact, many of the new improved management features in Windows Server 2012 can also be used from a local console only available in Windows 8. Many redesigned features were available in Windows Server 2008 but have been imagined for the modern, expanding business needs.

Security: Microsoft Windows 8 builds on the security features of Windows 7. It enables the enterprise to provide a secure and a stable computing platform from which users can accomplish their tasks. Three primary areas are the focus of the Microsoft security approach.

6. Results

The purpose of testing is to discover errors. It provides a way to check the functionality of components, sub-assemblies, assemblies and/or a finished product it is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test.



```
jupyter Similarity Last Checkpoint: 02/10/2023 (unsaved changes)
File Edit View Insert Cell Kernel Widgets Help Trusted
Run Code
d['Working'] = input("Are you currently working or have you been employed before? : ")
if (d['Working'] == 'yes' or d['Working'] == 'Yes'):
    d['JobTitle'] = input("If yes, please enter Job Title : ")
d['Masters'] = input("Are you currently pursuing masters or have you pursued higher education before : ")

Enter your details:
Enter your name: Vikram
Enter your gender: Male
Enter the interests: Social Justice
Enter the skills : Criminal law
Did you do any certification courses additionally? : yes
If yes, please specify your certificate course title: BABL
Are you currently working or have you been employed before? : no
Are you currently pursuing masters or have you pursued higher education before : no

In [11]: a = recommend(d)
print(a)
['constitution', 'Law', 'Instrumentation Engineering', 'Chemistry', 'general']

In [ ]:
In [ ]:
In [ ]:
```

Figure 2: Result

This test is during verification if some fields are incorrect format then during validation process it can be gathered. In software project management, software testing, and software engineering, verification and validation (V&V) is the process of checking that a software system meets specifications and that it fulfills its intended purpose. It may also be referred to as software quality control. It is normally the responsibility of software testers as part of the software development lifecycle.

7. Conclusion

In conclusion, Recommender systems, commonly referred to as recommendation learning behavior characteristics, are a relatively recent yet highly sought-after machine learning technology that websites utilise widely. In addition to being a prerequisite for self-study and lifetime learning, information literacy is a fundamental skill that college students need to adapt to the changing social needs of the modern world. The new case is placed in the category that most closely resembles the existing categories using an optimisation algorithm that determines how similar the new instance and its data are to the cases that are already accessible. A new data point is classified by the optimisation algorithm using similarity, which saves all of the available data. This implies that by employing a deep learning technique, newly discovered data can be quickly categorised into a well-suited for learning behavior.

8. References

- [1]. Analysis of Students' Learning Behavior under Network Learning Environment Zeping Wu _2021
- [2]. Research on a Prediction Model of Online Shopping Behavior Based on Deep Forest Algorithm_2020
- [3]. A Deep Learning-Oriented Personal Credit Model for Online Learning Platform Jialing Zhu_2020
- [4]. Models of Behavior of Agents in the Learning Management System Oleg Bisikalo_2019
- [5]. Automatic detection for students behaviors in a group presentation Ahmed Fekry_2019
- [6]. Jom Data Mining: Learning Behavior Affecting Their Academic Performance, Really?

[7]. Y.K. Adrian Chin_2019

[8]. Predicting Learning Behaviour of Online Course Learners' using Hybrid Deep Learning Model S. Kavitha_2018