

# A Hybrid Approach of Collaborative Filtering and Genetic Algorithm for Product Recommendation System

Shalaka Prasad Deore<sup>1</sup>, Tejashree Jagtap<sup>2</sup>, Amruta Bendale<sup>2</sup>, Rutuja Pawar<sup>2</sup>, Ritika Valesha<sup>2</sup>

Modern Education Society's College Of Engineering, Pune

**Abstract:** Data mining is an critical research space in recent times that focuses on the supply of facts in records. this is in which records from the internet site is mined so that informative facts can be processed and used correctly and correctly through people. Its cause is to expect and interpret. one of the functions of data mining is the association Rule mine. It consists of two procedures: First, locating the frequently used objects on the web site the usage of a little assist and developing a rule of relation to commonplace items with a unique confidence. it is related to the affiliation of items wherein in all A-occasions, there may be a B-occurrence. This mine could be very effective in reading the marketplace basket. That app is useful for clients who purchase positive gadgets. that during the entirety they bought, it can be something / matters that could be mixed with some thing offered. MLP and genetic algorithm are the most widely used association mining association set of rules.

**keywords:** Genetic set of rules, collaborative filtering, recommendation application

## I. INTRODUCTION

Collaborative sorting is a technology for recommending similarities. There are two types of integrated filters: User-based interactive filters and object-based collaborative filters. A user-based collaborative filtering algorithm is an effective way to recommend useful content to users by using the feeling that the user can select the preferences of the same users. So, initially, the algorithm attempts to find the user's neighbors based on the user's similarities and then integrates the neighboring user's rating score

using supervised learning as a genetic algo. Object-based collaborative filtering algorithm has the same program as user-based interactive filtering through the user rating scale. Instead of close neighbors, it looks like a collection of items; the target user has already rated the objects and this algorithm covers how the objects look like the target object under the recommendation. After that, it reassembles the previous customer preferences based on this item matching.

To improve customer experience and increase sales of products, almost all companies are trying to create some kind of a simple but effective system. So the completion of this commendation program comes to light. The system works in two steps, firstly, it analyzes the user's search for the item and the users' interests, and second, it attempts to find the same set of items that the user may be interested in. This leads to better choices between products.

## II. LITERATURE SURVEY

In [1], the authors propose to incorporate the temporal variation in the equation, leading to a time-conscious recommendation system. This enables us to track the emergence of user preferences over time. This is especially important in the field of music recommendation, where users' preferences vary greatly. To overcome this problem, [2] the authors propose a basic measurement model based on the standard deviation of user characteristics in the central nervous system. This approach to specific recommendations is also evaluated in [3]. In this

paper, the authors propose to add an additional layer of understanding to the standard prediction model. The function of this layer is to identify users the same depending on their understanding steps. In [4], the authors propose to introduce information graphs in RS, proposing a novel model called Neighborhood Aggregation Collaborative Filtering (NACF). It uses the information graph to spread and generate potential user interest, and re-injects them into the user's features by diverting attention.

### III. PROBLEM DEFINITION

The proliferation of websites is one of the main causes of the latest online information. The Recommendation System (RS) is designed to help users filter information.

We will suggest a combination of a combination of genetic algorithm and Integrated Filtering.

### IV. ARCHITECTURE DIAGRAM

Collaborative filtering process based on user history in the form of measurements provided by the user to the object as their source of information. It can be done by creating interactions between users or between objects. Collaborative sorting is divided into three types: user-based, object-based, and model-based.

User-based approach: A user-based approach creates a user-based recommendation with similar tastes.

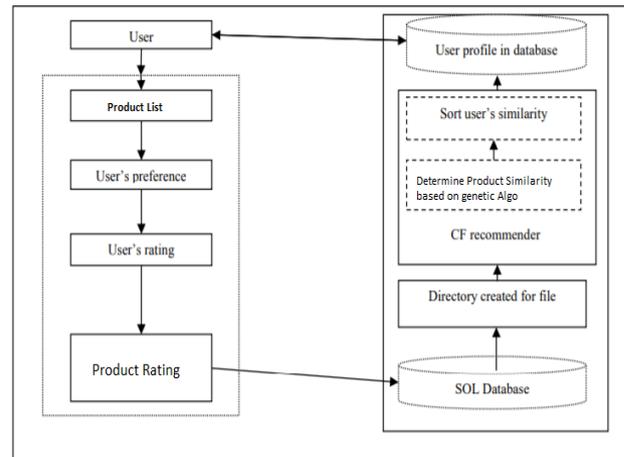


Fig 1. Architecture Diagram

### V. MODULE DESCRIPTION

The proposed plan creates a new recommendation system based on two RS; one affiliate and genetic product algorithm that works for the e-commerce app. Object-based filtering is the process of finding similar items for a specific item in a list of available items on a website. This process uses a method to find a neighbor of objects such as a user-selected object.

**Algorithm:** Collaborative Algorithm

**Input:** Item database and user or customer database

**Output:** Product Suggestion

#### Module 1: Website

Creating the first user interface creates a product website.

#### Module 2: Product Details

User should be able to navigate to products > product details

The user should get the required product details

User should be able to get a recommendation.

The user must be able to filter the products according to his needs.

#### Module 3: Cart Page

User should be able to navigate to the cart page.

The user must be able to add / remove products to the cart.

The user must be able to navigate in order to continue the purchase button.

User should be able to navigate to exit

#### Module 4: Exit

User should be able to navigate to the exit page.

The user should be able to explore different payment options

The user must be able to evaluate their products with relevant information

#### VI. CONCLUSION

In the current work, all customer will be assured for better satisfaction also there similar products are will be promoted as early as they do the select the product to buy as the collaborative filtering algorithm will contains various strategies for obtaining the same products. With use of this multiple program, the e-commerce platform can effectively increase customer experience and also sale can be improved.

It will give customers a better choice of options based on their own customization, such as a customized shopping experience. Our application can be used for any type of application that will require approach to user information like tailor-made shopping experience.

#### VII. REFERENCE

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