

# Product Recommendation Using Machine Learning

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**Abstract-** Recommendation systems have surfaced fleetly in the once decade. Recommendation of products to attract guests that meet their conditions is veritably important for the merchandisers to survive in the global request. The approach proposed in this paper is new and serves as a better volition to rate a product grounded on its specialized specification by assaying large number of stoner reviews which are uprooted stoutly from several tope-commerce websites. This avoids the need, for the stoner, to search for opinions and commentary online before making a purchase. The proposed approach in this study excerpts specification list like battery, processor, cameraetc. and client reviews for a stoner specified product from different websites and identifies pivotal terms corresponding to the specialized features of the product in the review to determine opposition of the point and classifying it under the specification list. Each specification is assigned a score grounded on opposition i.e. positive/ negative feedback. Overall product rate is calculated by adding up the score specific to individual features. This approach is veritably useful for those guests who target at specific features in a product.

**Keywords-** Recommended System, Feature Extraction, Classification, Support vector Machine(SVM), Harr cascade, Machine Learning etc.

## I. INTRODUCTION

In this project we are going to study about recommendation systems. Recommendation systems are typically used by companies, especially e-commerce companies like Amazon .com ,to help users discover items they might not have found by themselves and promote sales to potential customers. Cooperative styles for recommender systems are styles that are grounded solely on the once relations recorded between druggies and particulars in order to produce new recommendations. This is a highly-targeted approach which can generate high conversion rate and make it very effective and smooth to do advertisements, A product based recommendation system is a filtering system that predicts and shows the items or product or a service that a user would like to purchase or use.

## II. LITERATURE REVIEW

The social network surroundings are trending to list the guests with the product recommendations. The social recommendations are generated by recommender system grounded on product conditions and commentary. There has been number of work towards perfecting the delicacy of recommendations generated by recommender systems. These tend to make the system to constrict the suggestion of product variety. The system should get evolved to the trend of generating diversity of recommendation so that the client can explore the wide variety of products. The diversity of stoner demographic in social network makes the recommendation system can be applied to introduce variety of product recommendation. The seasonality of product is arising trend in recommendation system to laboriously seek out the right product at right time. The work focuses on probing the effectiveness of recommender system, in generating the different suggestions forE-commerce dataset.[1]

Recommendation systems are constantly preferred in recent times icing client satisfaction and accelerating deals. Thanks to these systems, it's aimed to accelerate the decision-making process of guests. Recommendation systems have come a necessary part, especially in online shopping. utmost of the recommendation systems used in numerous different areas have been attracting attention, fastening on fashion, and apparel lately. In this paper, a deep literacy- grounded online recommendation system has been proposed with a Convolutional Neural Network( CNN). Classes of different patterns in the CNN armature have been determined according to 'druggies' and contrivers' pattern preferences. The deep literacy model recommends patterns considering color comity for cloth products. The proposed model has been trained and tested using our own pattern dataset including 12000 images. trials on pattern datasets show the effectiveness of our proposed approach.[2]

In recent times, with the vigorous creation of" Internet Agriculture" in China, further and further agrarian products e-commerce platforms have surfaced. Due to the deficit of substantiated services on the being agrarian products e-commerce platform, this paper studies Hadoop grounded agrarian product e-commerce recommendation system The Hadoop platform can't only break the storehouse problem of

massive data, but also snappily dissect the stoner's gest e data through distributed computing, thereby discovering their interests, furnishing individualized recommendation service for them, and achieving perfection marketing of target druggies. At the same time, this paper provides a reference for the development of agrarian products e-commerce.[3]

**ASSUMPTIONS AND DEPENDENCIES**

- User must require the python.
- User has to install the pycharm on his pc.
- User has to login to the system.
- User has to their account details and receivers account details

**FUNCTIONAL REQUIREMENTS**

System feature

- Database: Customers/users Personal details are stored in a in database.
- User: User do the fill up registration form and then on the bases of search history of the customer product is recommended.
- System: Pre-processing on the Face Authentication valid user is checked and if validation then authorization is provided matching the details from the database.

**EXTERNAL INTERFACE REQUIREMENT**

1. User interfaces

User Interface is important to meet User expectations and support the effective functionality of site.

2. Hardware interfaces

An architecture used to inter connect two devices together it includes the design of the type, number and purpose of wires and the electrical signals that are passed across them.

3. Software interfaces

**PYTHON:** Python is a high-level, object-oriented programming language with object, modules, threads, exception-handling and automatic memory management which help in modeling real-world problems and solve the problems. It can be used to build almost any type of application with the right tools and libraries It is a simple yet powerful programming language thus, python is a portable language. Python is designed to be highly readable. Python is Interpreted language, program runs directly from the source

code. It converts the source code into an intermediate language, which is again translated into machine language that has to be executes. Python is a general purpose programming language that has a simple easy-to-learn syntax that emphasizes readability and therefore reduces the cost of program maintenance. Its high-level data structure, combined with dynamic typing and dynamic binding, attract a huge community of developers for Rapid Application Development and deployment Pycharm are usually developed in the python language.

1. Communication interfaces

It means the Interfaces and protocols that enable software, directories, network, operating systems, network operating system or web based software installed on one computer to interoperate with the Microsoft platform software on other computer including without limitation communications designed to ensure security, authentication or privacy.

**III. METHODOLOGY**

System Architecture

- Input the Dataset for Processing.
- Next step is Feature Extraction.
- Next step is classification Using SVM.
- User can create Face Data for Face Authentication for security.
- User Display Product Recommendation and check Result.

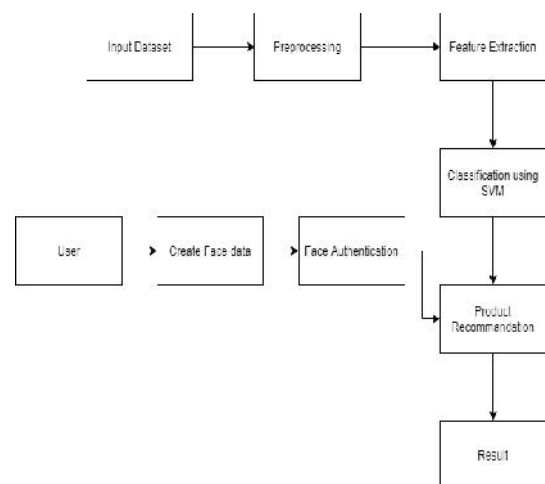


Fig. System Architecture

#### **IV. CONCLUSION**

Recommender systems provide guests to find products they like. In this paper, we introduce a procedure for recommending products to guests. we give the Face Authentication to the stoner for the Security Purposes. Understanding the satisfaction of the customer with specific products through online reviews one-commerce spots.

#### **REFERENCES**

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