IJIRCCE

e-ISSN: 2320-9801 | p-ISSN: 2320-9798

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 12, Issue 4, April 2024

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 8.379

International Journal of Innovative Research in Computer and Communication Engineering

| e-ISSN: 2320-9801, p-ISSN: 2320-9798| www.ijircce.com | |Impact Factor: 8.379 | Monthly Peer Reviewed & Referred Journal |

|| Volume 12, Issue 4, April 2024 ||

| DOI: 10.15680/IJIRCCE.2024.1204345 |

Image Based Fashion Recommendation System

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ABSTRACT: In current years, the textile and fashion industries have witnessed an enormous amount of growth in fast fashion. On e-commerce platforms, where numerous choices are available, an efficient recommendation system is required to sort, order, and efficiently convey relevant product content or information to users. Image-based fashion recommendation systems have attracted a huge amount of attention from fast fashion retailers as they provide a personalized shopping experience to consumers. With the technological advancements, this branch of artificial intelligence exhibits a tremendous amount of potential in image processing, parsing, classification, and segmentation. Despite its huge potential, the number of academic articles on this topic is limited. The available studies do not provide a rigorous review of fashion recommendation systems and the corresponding filtering techniques.

KEYWORDS: Fashion recommendation system , Extraction based techniques , filtering techniques , Image Classification.

I. INTRODUCTION

Clothing is a kind of symbol that represents people's internal perceptions through their outer appearance. It conveys information about their choices, faith, personality, profession, social status, and attitude towards life. Clothing is believed to be a non-verbal way of communicating and a major part of people's outer appearance. Research on textual content, such as posts and comments, emotion and information diffusion, and images has attracted the attention of modern-day researchers, as it can help to predict fashion trends and facilitate the development of effective recommendation systems. An effective recommendation system is a crucial tool for successfully conducting an e-commerce business.

II. LITERATURE REVIEW

A fashion recommendation system involved a step by step procedure for image analysis. The first step was to extract image shape features using CNN. Then, the features were binarized. The research then used Probabilistic Matrix Factorization to embed the features in a vector. The item vector and user-item rating were passed through the CNN and the CNN was trained. The user-item rating was predicted on an unknown item vector. In this manner, items with the highest rating were recommended to the user.

III. PROPOSED WORK

The proposed work of image-based fashion recommendation system is to develop a system that can accurately analyze and interpret images of clothing items or outfits to provide personalized recommendations to users based on their visual preferences and style. The system should be able to understand the user's desired aesthetic, color schemes, patterns, and overall style from the uploaded or searched images then it suggest similar or complementary clothing items or outfits that match the user's preferred style and provide inspiration for new outfit ideas. This will increased the user experienced or interest in shopping. The fashion recommendation system should provide personalized recommendations based on the user's preferences. The system should allow users to search for fashion items using images. The system should be able to analyze and recognize clothing items, accessories, and styles in user-uploaded images or from a database of fashion images. Allows users to upload or take a picture of a fashion item they like and find similar products in the inventory.

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IV. SYSTEM ARCHITECTURE

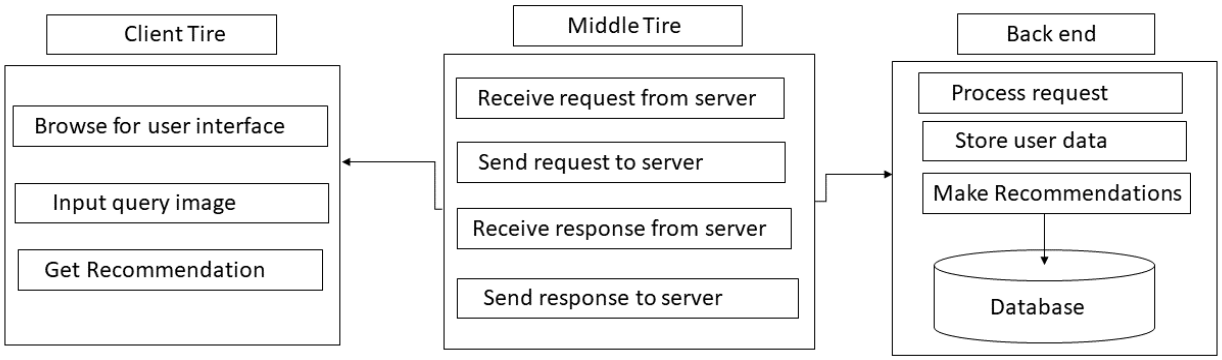

Fig 1: System Architecture

System architecture defines the structure of a software system. This is usually a series of diagrams that illustrate services, components, layers and interactions. A system architecture is the conceptual model that defines the views of structure, behavior, and more fa system. An architecture description is a formal description and representation of system, organized in a way that supports reasoning about the structures and behaviors of the system. A system architecture can consist of system components and the sub-systems developed, that will work together to implement the overall system. There have been efforts to formale languages to describe system architecture, collectively these are called architecture description languages. The purpose of system architecture activities is to define a comprehensive solution based on principles, concepts, and properties logically related to and consistent with each other.

V. SOFTWARE AND HARDWARE REQUIREMENT

- Operating System: Linux, Window, MacOS
- Python
- Tensorflow
- Keras
- ResNet
- Streamlit
- Numpy
- RAM : At least 8GB

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VI. RESULT AND DISCUSSION

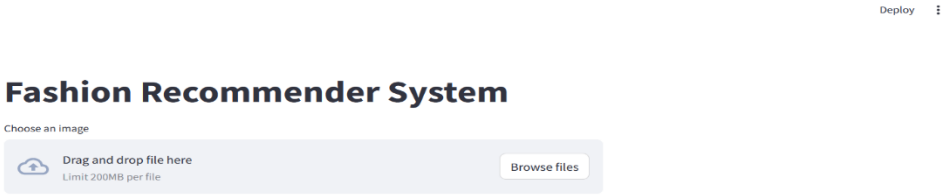

Fig 2: Main Window

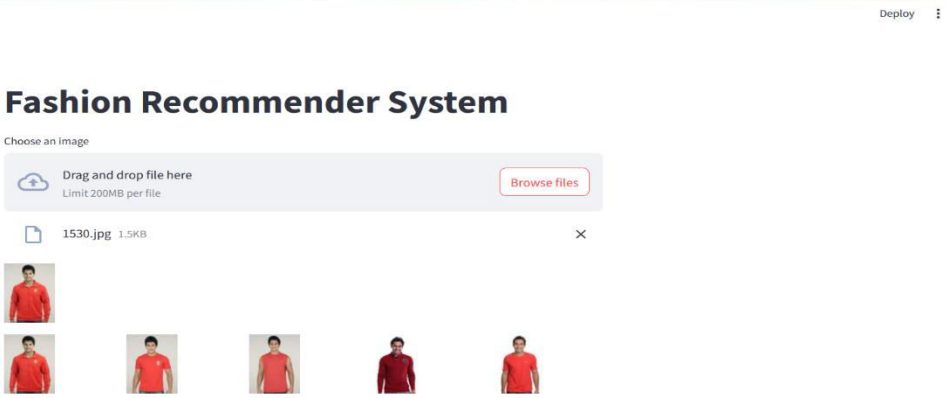

Fig 3:

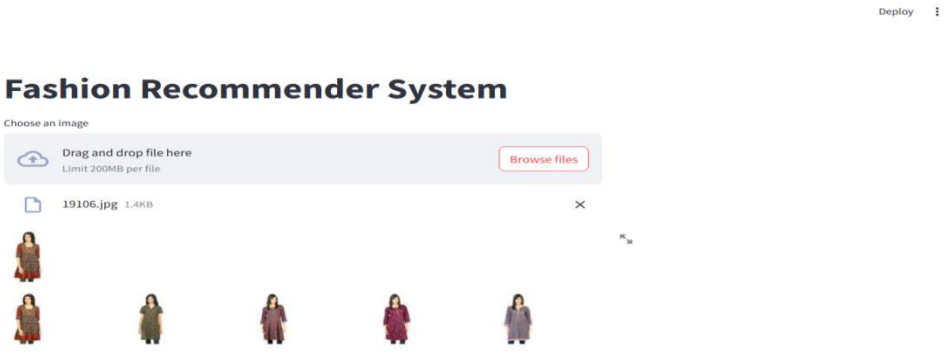

Fig 4:

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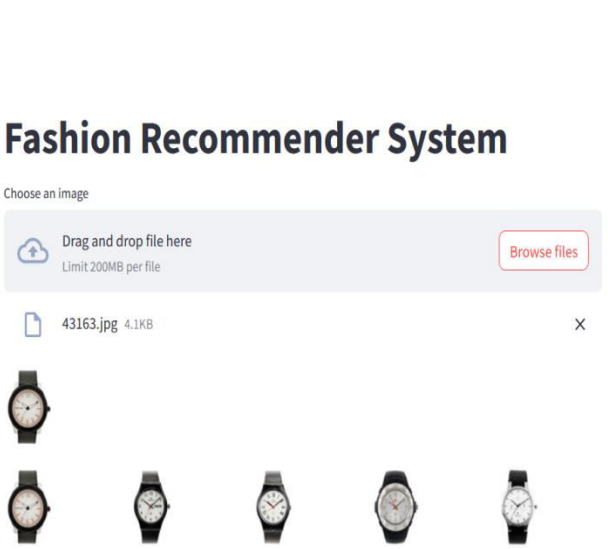

Fig 5:

VII. FUTURE SCOPE

The scope for image based fashion recommendation system it allow user to search the fashion item in which they are interested by uploading the image of the fashion item. It will show the similar recommendation to user by analyzing the image uploaded by user.
In the future, the system will show the recommendation to user by preferring the users feedback and their search history and all this things makes system more useful for user and it will increased the user experienced or interest in the shopping.

VIII. CONCLUSION

In conclusion, the implementation of an image-based fashion recommendation system can improve the shopping experience for users. By utilizing advanced image recognition and ML algorithms, this system can accurately analyze the user interest by uploaded images by user. Then show the similar recommendation to user. The image-based approach eliminates the need for users to spend time searching and browsing through large catalogs, making the shopping process more efficient and convenient. Overall, the image-based fashion recommendation system has the potential to revolutionize the fashion industry by offering a highly personalized and enjoyable shopping experience for users.

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