**Recommendation System Project**

**Project Overview**

# **Overview**

A recommendation system is a type of algorithm designed to recommend or suggest things to the user based on many different factors. The recommendation system deals with a large amount of data and filters it out based on user’s preferences and interests. With the rise of Youtube, Netflix, Amazon, etc., recommendation systems have taken a crucial place. Recommender systems are critical in many industries as they can help to generate a large amount of revenue. This series of projects aims to introduce recommendation systems and several algorithms used for recommendation.

This project mainly focuses on the basics of the recommendation system and a brief introduction to the different algorithms. Implementation of a Rule-based recommendation system has also been covered.

**Aim**

To understand the basics of a recommendation system and build a rule-based recommender system.

# **Data Description**

The dataset is a transnational data set containing all the transactions occurring between 01/12/2010 and 09/12/2011 for a UK-based and registered non-store online retail. The company mainly sells unique all-occasion gifts with maximum wholesaler customers. The dataset can be found at The UCL machine learning repository. The dataset contains information about 541910 customers over eight attributes. The eight attributes are InvoiceNo, StockCode, Description, Quantity, InvoiceDate, UnitPrice, CustomerID, Country.

# **Tech Stack**

* Language: Python
* Libraries: pandas, numpy, seaborn, matplotlib

**Approach**

1. Data Description
2. Exploratory Data Analysis
3. Data Cleaning
4. Rule-based Recommendation system
   1. Popular items Globally
   2. Popular items countriwise
   3. Popular item monthwise
   4. Buy again

# **Project Takeaways**

1. What is the Recommendation system?
2. Why use the Recommendation system?
3. Where is the Recommendation system used?
4. How does the Recommendation system work?
5. What kind of data is needed for recommendation
6. Different types of similarity measure
7. Types of Recommendation system
8. Understanding Rule-based Recommendation system
9. Understanding Market Basket Recommendation system
10. Understanding Content-based Recommendation system
11. Understanding Collaborative filtering based Recommendation system
12. Understanding Hybrid Recommendation system
13. Understanding Clustering-based Recommendation system
14. Understanding Classification based Recommendation system
15. Understanding Deep Learning-based Recommendation system
16. Understanding Knowledge graph based Recommendation system
17. Understanding Image-based Recommendation system
18. Implementation of Rule-based Recommendation system