1. **Title:**

   Automate the work of a clothing personal stylist.

2. **Project Statement:**

   Everyone loves styling. Having a personal stylist will work with you to help you curate a selection of outfits that will make you feel comfortable and great. AI Styling automates the process of outfit recommendations. Using a machine learning model, AI Styling tool can understand what is considered as a good style and what isn't and make recommendations based on it.

Outcomes:

The Artificial Intelligence Personal Stylist Recommendation System is to identify the best suitable products for the customer as per his/her preferences and interests.

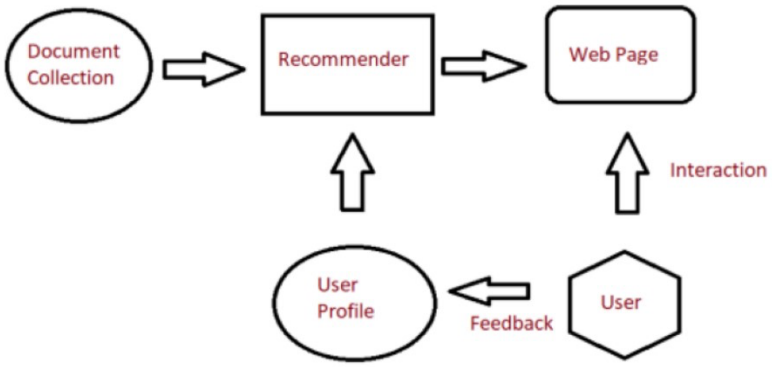


Fig: Recommender System

Modules to be implemented

1. Data Collection
2. Explore, clean and augment the data
3. Build a model using Collaborative Filtering algorithms and Deep Neutral Networks.
4. Evaluation metrics
5. Presentation and Documentation

3. **Week-wise module implementation and high-level requirements with output screenshots**

Milestone 1: Week 1-2

Module 1: Data Collection

- Understand the business.
- Gather necessary information/data

Module 2: Explore, clean and augment the data

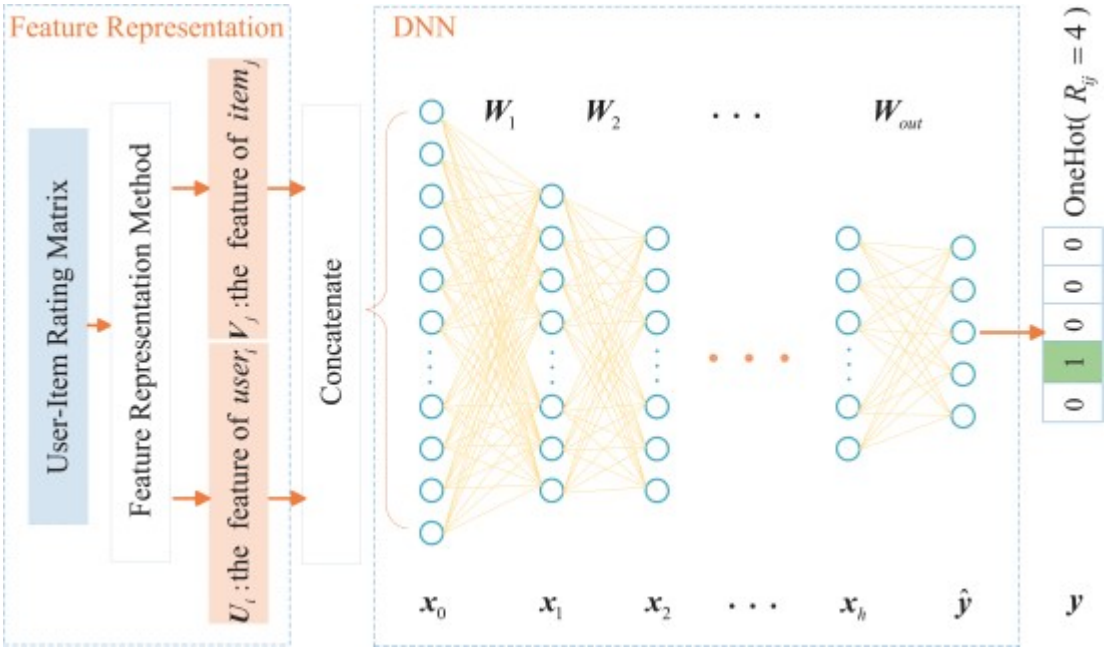
- Considering only the features that are more likely to represent the user's current taste.
- Dealing with high dimensional data
- Dealing clustering and outlier detection
- To use visualization tools to show patterns in the data.

Milestone 2: Week 3-5

Module 3: Build a model using various recommendation system models

- To Try the traditional content- based and collaborative filtering models.
- To use various Collaborative filtering methods such as Probabilistic Matrix Factorization and Singular Value Decomposition to represent the latent features of the users or items.
- To use DNN (Deep Neural Networks) for complex interaction patterns and for precisely reflecting the user's preferences
- Usage of deep neural network model which takes the features of users and uses forward

  propagation algorithm to predict the scores.



Milestone 3: Week 6-7

Module 4: Evaluation metrics

- Consider Recall@K, Precision@K and F1@K as an important metric from a scale and ranking point of view to evaluate the recommendations system models.
- Also using Ranking related metrics to have relevant recommendations at the top.

Milestone 4: Week 8

Module 5: Presentation and Documentation

- Prepare a presentation which must include the details of the problem statement, details of the data collected, data preprocessing methods and its outcomes, model building methodology, performance metrics and recommendations based on the outcome.
- Project document which should capture the same topics mentioned above in more detailed format.

Evaluation Criteria:

Milestone 1 Evaluation (Week 2):

- Approval on the master dataset to be used.
- Approval on the data preprocessing techniques.
- Approval on data treatments performed on the data.

Milestone 2 Evaluation (Week 3-5):

- Approval on different recommendation system algorithms to be used on the master dataset.

Milestone 3 Evaluation (Week 6-7):

- Approval on Performance Metrics on all the built Models **Milestone 4 Evaluation (Week 8)**:
- Approve Final Model.
- Approve Presentation and Project Documentation.
- Approve Remediation/Action plans for the Business.
- Final Code Submissions on GitHub