

**Department of Computer Science and Engineering**

# **PRODUCT RECOMMENDATION SYSTEM BY USING MACHINE LEARNING TECHNIQUES**

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# Abstract

The project aims at developing a product recommendation system that is used to suggest goods or products that customers might also like based on their previous purchase.

The techniques used are:

1. Product popularity based recommendation system targeted at new customers: It targets new customers with most popular products sold.
2. Model-based collaborative filtering system: It recommends the products to the users based on purchase history.
3. Item based collaborative filtering system: It uses text clustering method.

This recommendation system will help the users get good recommendations to start with and once the buyers have purchased history, the system uses Model-based collaborative filtering technique.



# Dataset

- The Amazon products dataset contains product reviews and metadata from Amazon, including 142.8 million reviews.
- This dataset includes reviews (ratings, text, helpfulness votes), product metadata (descriptions, category information, price, brand, and image features), and links.
- This is a dataset related to over 2 Million customer reviews and ratings of Beauty related products sold on their website.
- It contains the unique UserId (Customer Identification), the product ASIN (Amazon's unique product identification code for each product).
- Ratings (ranging from 1-5 based on customer satisfaction) and the Timestamp of the rating (in UNIX time).
- <https://www.kaggle.com/skillsmuggler/amazon-ratings>

# Architecture



# Technology Stack

- Python 3.6
- Libraries Needed:
  - matplotlib
  - sklearn
  - Pandas
  - Numpy



# References

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# Thankyou