**Project Proposal**

Foundation of ML (CSCN8010)

**Group 10**

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**Amazon Data Insights & Recommendation System**

In the recent times, everyone has faced the situation of getting personalized product recommendations. In other words, certainly you have felt that companies are monitoring us and some how recommends the product which is still in our thoughts. How does this magic happens!! In this project, we are attempting to develop the same magic using rich data of Amazon Product Sales.

**Problem Statement:**

Despite having millions of products and services on Amazon, many customers struggle to find products they searching. This problem of finding potential product that a customer could buy, can be solved using a Recommendation System and from accurate data insights. **The aim of this project is to develop a system that can suggest new products based on customers past activities, eventually generating more revenue.**

By doing this practice effectively we can increase product awareness among customers which can generate higher volume of sales. In the end it will improve company’s profitability in the long run. Systems like this uses data generated by users like their activity on platforms like YouTube, Google. However, we are focused on amazon users data only for the scope of this project.

To develop such system, we are focused on using **Hybrid Recommendation System** which uses the mixture of popularity based, content based, and collaborative based filtering system to provide good suggestions. For example IMD has Top 250 movies recommendation page which is based on popularity. Similarly, NETFLIX is a good example of the use of hybrid recommender systems. The website makes recommendations by comparing the watching and searching habits of similar users (collaborative filtering) as well as by offering movies that share characteristics with films that a user has rated highly (content-based filtering).

**About Data Source:**

For this project we are using a good data source form keggle.com. The dataset contains 1K+ Ratings and Reviews of product.

Link = [Amazon Sales Dataset (kaggle.com)](https://www.kaggle.com/datasets/karkavelrajaj/amazon-sales-dataset/data)

The Reference code for this project can be found form following resources.

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* Victorferino. (2023, April 16). *Amazon Sales - Clean, EDA, Sentiment analysis*. Kaggle. <https://www.kaggle.com/code/victorferino/amazon-sales-clean-eda-sentiment-analysis/notebook>
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* CampusX. (2022, May 27). *Book Recommender System | Machine Learning Project | Collaborative Filtering based Recommender* [Video]. YouTube. <https://www.youtube.com/watch?v=1YoD0fg3_EM>
* *Collaborative filtering*. (n.d.). Google for Developers. <https://developers.google.com/machine-learning/recommendation/collaborative/basics>