1. Customer behavior analysis model

a. Objective: Create shopping Cart Recommender: an algorithm to analyze shopper purchase history, find patterns in purchasing behavior, and recommend items to customers based on their purchase history

b. Dataset: Customer purchase history dataset on Instacart https://www.kaggle.com/c/instacart-market-basket-analysis/data

i. Explanation of variables in Dataset: https://gist.github.com/jeremystan/c3b39d947d9b88b3ccff3147dbcf6c6b

ii. https://www.kaggle.com/philippsp/exploratory-analysis-instacart

iii. https://www.kaggle.com/nislam4/instacart-basket-eda

c. Business Utility:

i. Targeted marketing: analyzing your customers virtual footprint on your website/app can bring your targeted marketing to another level! For example, you can push special deals of their favorite items at an individual level based on their purchase history.

ii. Push different marketing materials strategically to each customer at certain time of the day given that time is when your customers like to shop the most or login to your app the most.

iii. Recommend items that they might want to add to their shopping carts and engage your customers by personalizing suggestions.

d. Project Design outline:

.Perform data wrangling, merge tables together, perform EDA

i. Analyze customer behavior, generate insights, build data visualizations for storytelling

ii. Define metric for model evaluation

iii. Create shopping cart recommendation system to recommend items to customers based on purchasing history

e. Background on Dataset:

.3+ million orders, based on 200k customers

1. Includes data such as day of week purchased, time of day purchased, reordered before or not
2. 6 diff tables: aisle, department, orderproductprior, order_product_train, products, and orders

f. Look for repetitive customers for training and test data

g. Collaborative based filtering

i. If someone bought something very similar to another person, how many customers buy the same things, build up frequencies,