Modeling Problem Statement – Campus Challenge 2023

Background:

- American Express has a capability Merchant Recommender to help connect an Amex Credit Card Customer with an Amex Merchant (Shop that accepts Amex cards)
- This capability recommends (show on a marketing channel) **personalized** merchants to Customers, to help Customers **discover** merchants near to them to shop & **increase spend** on merchants. These recommended merchants are decided by an algorithm.
- A Customer transacting on a recommended merchant within 30 days of recommendation date, is tagged as a successful activation.
- However, a Customer could have activated on few recommended merchants by herself/himself, even if not recommended by Amex (organic activations). Think about all the shops you visit without these shops being marketed to you.

Problem Statement:

The goal is to find merchants for each customer that have maximum 'Incremental activations' (and hence minimum organic activations). Incremental Activations means activations on merchants that the Customer would not have discovered otherwise, unless recommended.

Evaluation Criteria:

Some merchants are randomly Recommended & Not-Recommended at a Customer level.

The goal is to maximize Incremental Activation Rate on Top 10 merchants by prediction for each Customer (collated at a dataset level).

Incremental Activation rate = Recommended Activation Rate minus Not-Recommended Activation Rate

Activation rate = No. of Activations/No. of Recommendations, at Customer x Merchant level

Expected Outcome:

For each Customer x Merchant combination in Round 1/2 submission data, calculate a score such that Incremental Activation Rate on Top 10 merchants by prediction for each Customer (collated at a dataset level) is maximized. The final output file to be uploaded should have 3 columns – Customer, Merchant & predicted_score.