May 2021 Job-a-thon Approach

Problem Statement

Happy Customer Bank is a mid-sized private bank that deals in all kinds of banking products, like Savings accounts, Current accounts, investment products, credit products, among other offerings.

The bank also cross-sells products to its existing customers and to do so they use different kinds of communication like tele-calling, e-mails, recommendations on net banking, mobile banking, etc.

In this case, the Happy Customer Bank wants to cross sell its credit cards to its existing customers. The bank has identified a set of customers that are eligible for taking these credit cards.

Now, the bank is looking for your help in identifying customers that could show higher intent towards a recommended credit card, given:

Customer details (gender, age, region etc.)

Details of his/her relationship with the bank (Channel_Code,Vintage, 'Avg_Asset_Value etc.)

Approach

- Univariate, Bivariate and Multivariate analysis of variables to understand the "*Central Tendency*"
- Check and treat on Missing values and Outliers for each variables
- Build a baseline model – Logistic Regression with all variables
- Improve the model's *"Recall", "Precision"* and *"AUC Curve"* with feature selection and **"Cross Validation**" method
- Rebuild model with other algorithms like Gradient Boosting and XGBoost (eXtreme Gradient Boosting)
- Select the better model which in my case was XGBoost
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