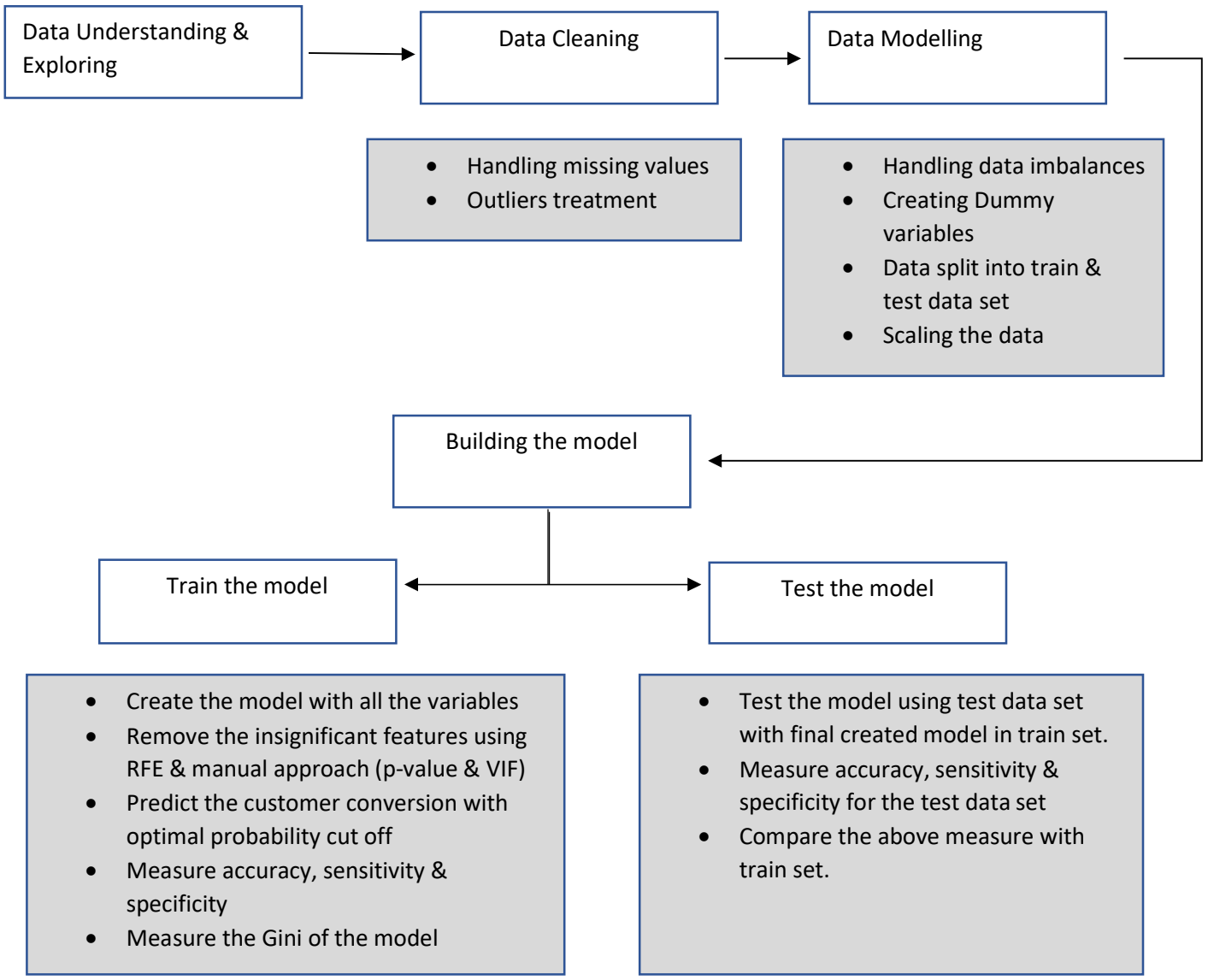
Summary Report

Problem Statement :-

Determine which leads belong to the X Education company in order to increase the lead conversion rate. This will allow the sales team to concentrate more on interacting with hot leads, or prospective customers, rather than contacting every single one of them. This will enable them to give more attention to the clients who are most likely to buy their product or course.

Analysis Approach :-



Model Outcome:-

Optimum probability cut off: 0.35

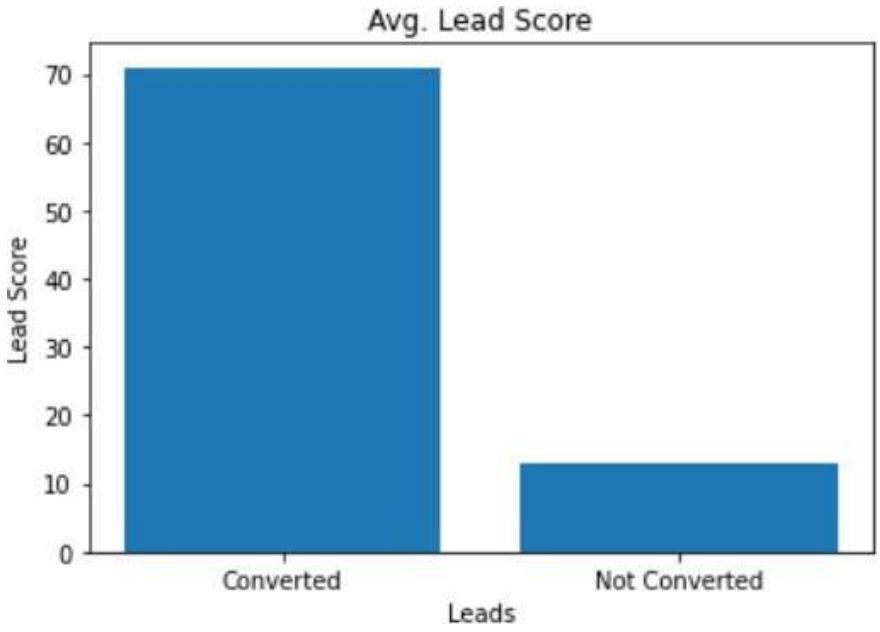
Lead Score:

The lead score is calculated based on the probability of customer being converted.

According to final model, if the lead score is more than 35 then the customer is likely to be converted. Higher the lead score higher is the chance that the lead/customer being converted.

Average lead score of the converted leads = 71

Average lead score for the not converted leads = 13



Features of the Final model: -

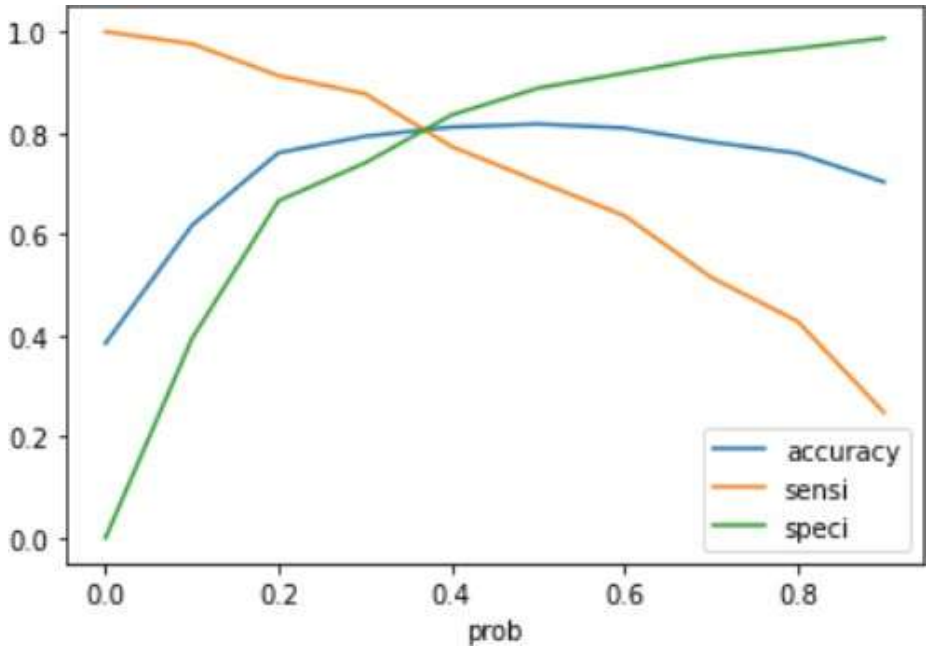
Below are the significant features of the final model arranged in the descending order of the impact on basis of their coefficients.

Features	Coefficients	Impacts
Total Tome Spent on Website	4.5548	Positive
Lead Origin_Lead Add Form	4.1770	Positive
What is your current occupation_Working Professional	3.6230	Positive
Last Notable Activity_Had a Phone Conversation	3.3499	Positive
What is your current occupation_Others	2.8814	Positive
Last Notable Activity_Unreachable	1.6213	Positive

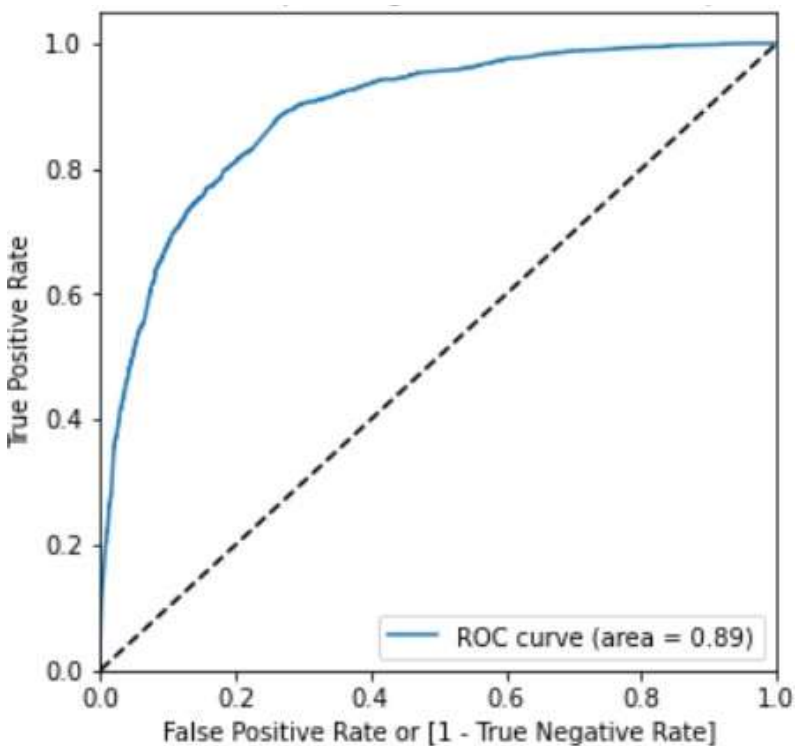
Lead Source_Olark Chat	1.4727	Positive
Last Notable Activity_SMS Sent	1.3846	Positive
What is your current occupation_Student	1.3101	Positive
TotalVisits	1.1152	Positive
What is your current occupation_Unemployed	1.1035	Positive
Last Activity_Converted to Lead	-1.1308	Negative
Last Activity_Olark Chat Conversation	-1.4674	Negative
Last Activity_Email Bounced	-2.0182	Negative

Important Measures of the Model: -

Measures	Train Set	Test Set
Accuracy	0.80	0.80
Sensitivity	0.82	0.81
Specificity	0.80	0.80



Gini of the model: - 0.89



Conclusion: -

The model has good accuracy, specificity & sensitivity. Overall, the model performs well on the test data set from what it had learned from train data set.

Business recommendation for higher conversion rate:

Highly likely to be converted leads:

1. Lead score more than 71
2. Current occupation – Working professional, Student & Others
3. Lead source Olark Chat
4. Last notable Activity – SMS sent, Had a phone conversation

Less likely to be converted leads:

1. Lead score less than 13
2. Last Activity – Email bounced
3. Last Activity – Converted to lead, Olark chat conversation

Learnings gathered: -

1. **Data Preparation/Cleaning:**
    i. Outliers and missing values should be handled carefully since they have the potential to distort our data.
    ii. It is preferable to either remove the characteristic or combine the data/values with a low proportion in comparison to others if there is a significant data imbalance.
    iii. All the features should be adjusted to same scale.

2. **Model Building: -**
    i. The variables shouldn't exhibit multicollinearity.
    ii. Determine the best probability cutoff to achieve an accurate balance between sensitivity and specificity.