Lead Scoring

Machine Learning 1

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# Problem Statement

* Build a logistic regression model to assign a lead score between 0 and 100 to each of the leads which can be used by the company to target potential leads
* Propose the changes which will help to increase the conversion rate
* The CEO, in particular, has given a ballpark of the target lead conversion rate to be 80%.

# Precursor

* The data provided was first cleaned to remove the null values and the outliers
* Then EDA analysis was performed rule out the variables that are less important

# Model

For out use we use the Logistic regression model

For training we split the data into 2 parts train:70% and test:30%.

## Feature Selection

We select top 15 features using RFE to reduce the model load. The top 15 features used for trainging are

* Total Time Spent on Website
* Lead Origin\_Lead Add Form
* Last Activity\_Converted to Lead
* Last Activity\_Email Bounced
* What is your current occupation\_Working Professional
* Tags\_Already a student
* Tags\_Busy
* Tags\_Closed by Horizzon
* Tags\_Interested in other courses
* Tags\_Lost to EINS
* Tags\_None
* Tags\_Ringing
* Tags\_Will revert after reading the email
* Tags\_switched off
* Last Notable Activity\_SMS Sent

It was found that following features have p value more than 0.5 and hence were removed.

* Tags\_Interested in other courses
* Tags\_Already a student
* Lead Origin\_Lead Add Form

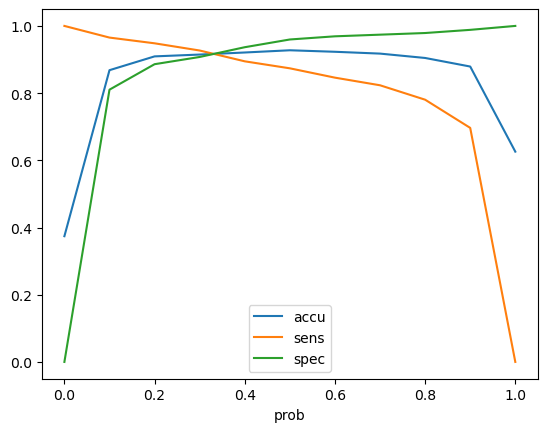
### Multicollinearity Check

The remaining featured were tested for multicollinearity using VIF. The feature with highest score of 1.644171 was

Tags\_Will revert after reading the email

Since the score is fairly low the feature was not removed.

### Cutoff

For determining the cutoff we compared accuracy, specificity and sensitivity and found it to be 0.3.

## Conclusion

The final results for the model are

Training:

• Accuracy: 91.48%

• Sensitivity: 92.68%

• Specificity: 90.76%

Testing:

• Accuracy: 91.57%

• Sensitivity: 92.11%

• Specificity: 91.24%