



# Lead Scoring- Case Study

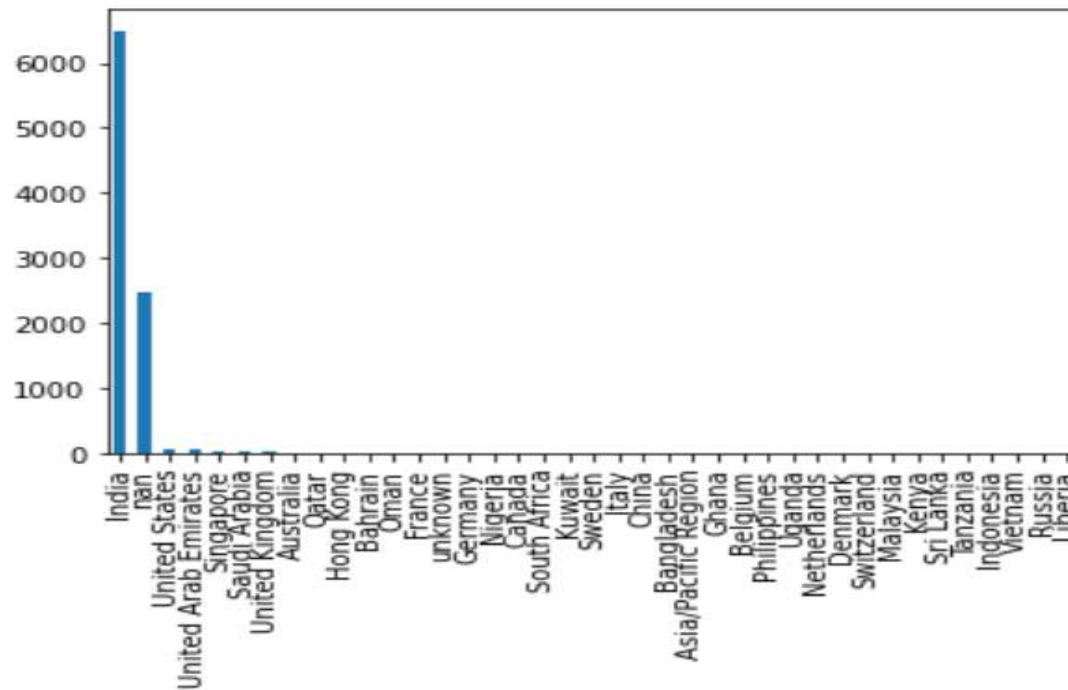


# Business Problem

- ▶ The X Education company wants to identify the hot leads, who can be targeted to sell their courses
- ▶ Currently, the company is able to convert only 30% of the total leads to take up the courses in their portal

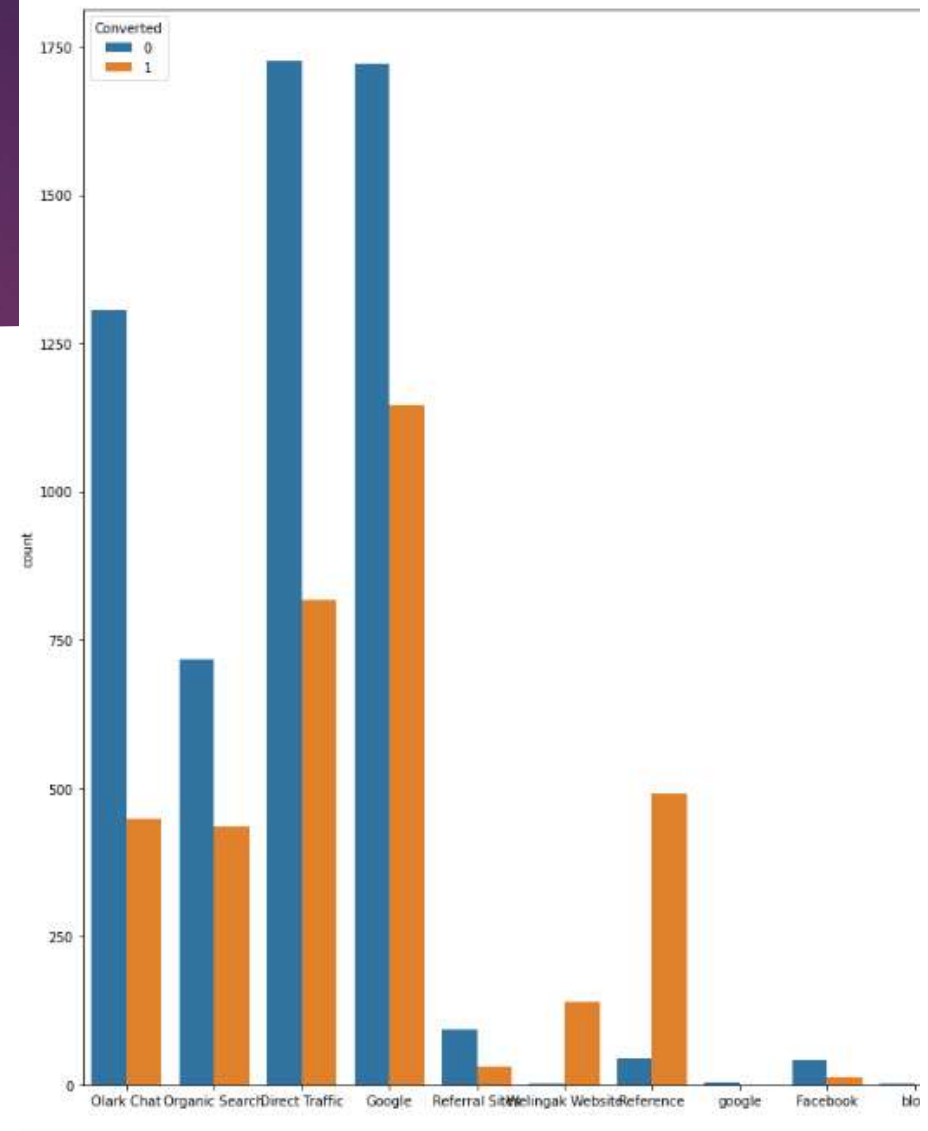
# Initial Insights from Data

- ▶ India is predominately the country that shows interest in this course, hence that has been dropped for other analysis. Similary features with maximum number of single values are dropped



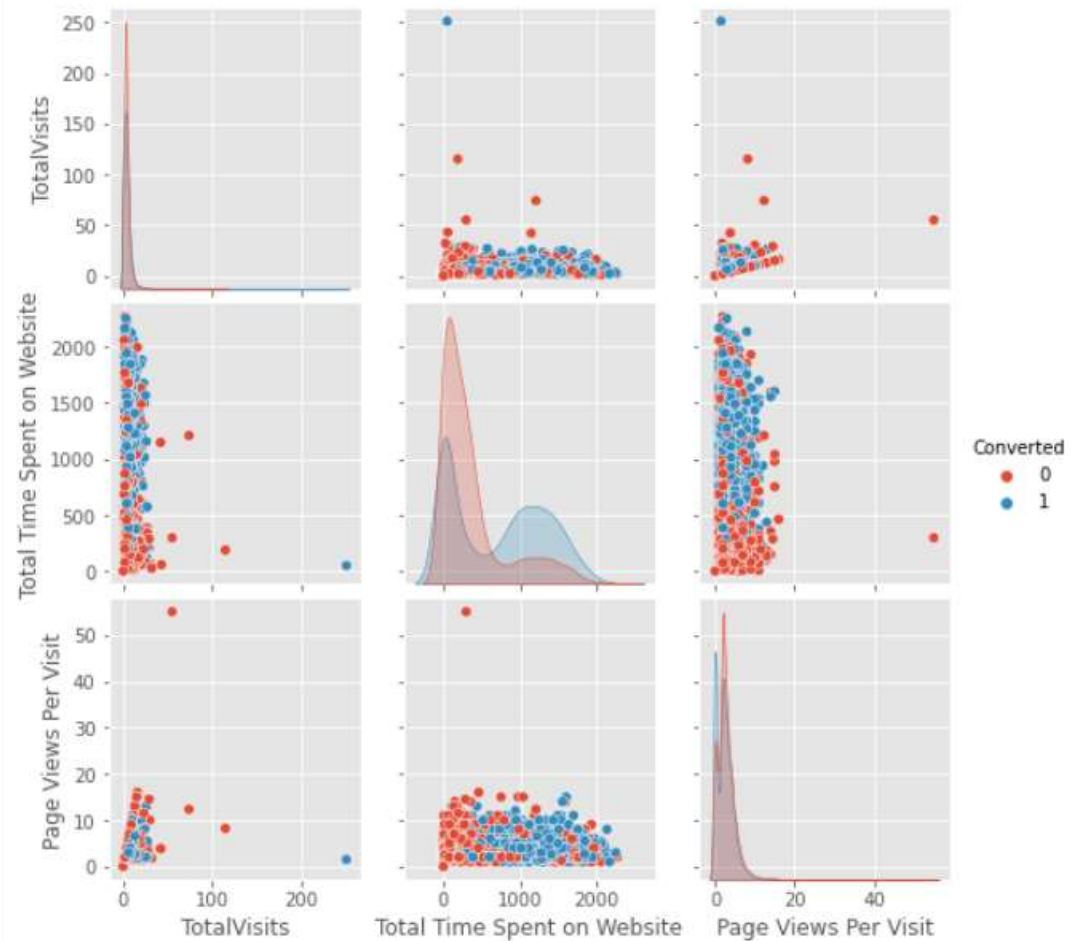
# EDA

- ▶ In terms of lead source, Google and Direct traffic are preferred.
- ▶ But the conversion rate is higher in Google and Olark chat



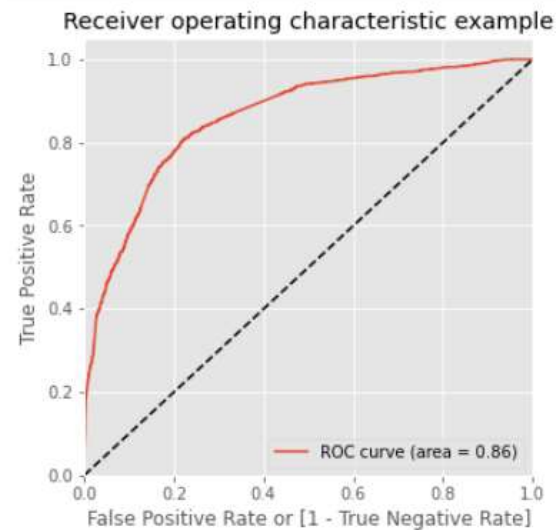
# EDA

- It can be seen from this pair plot, that the total number of visits and total time spent increases the conversion rate also increase.



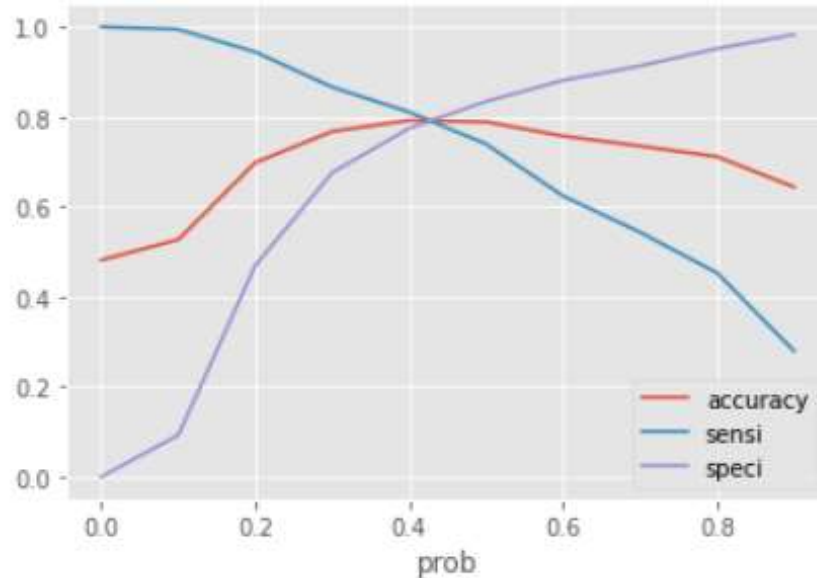
# ML model

- ROC curve if away from right angle line, the model built would be efficient. The ROC curve of 0.86 has been achieved implying it a good model.



# Optimal Cut-off

- To do away with the trade-off between the various metrics in ML model, it's prudent to have an optimal cut-off value. In this model, the value is 0.42



# Recommendations

- The total time spent and more number of visits to website play a crucial role in getting

	coef	std err	z	P> z	[0.025	0.975]
const	0.2040	0.196	1.043	0.297	-0.179	0.587
TotalVisits	11.1489	2.665	4.184	0.000	5.926	16.371
Total Time Spent on Website	4.4223	0.185	23.899	0.000	4.060	4.785
Lead Origin_Lead Add Form	4.2051	0.258	16.275	0.000	3.699	4.712
Lead Source_Olark Chat	1.4526	0.122	11.934	0.000	1.214	1.691
Lead Source_Welingak Website	2.1526	1.037	2.076	0.038	0.121	4.185
Do Not Email_Yes	-1.5037	0.193	-7.774	0.000	-1.883	-1.125
Last Activity_Had a Phone Conversation	2.7552	0.802	3.438	0.001	1.184	4.326
Last Activity_SMS Sent	1.1856	0.082	14.421	0.000	1.024	1.347
What is your current occupation_Student	-2.3578	0.281	-8.392	0.000	-2.908	-1.807
What is your current occupation_Unemployed	-2.5445	0.186	-13.699	0.000	-2.908	-2.180
Last Notable Activity_Unreachable	2.7846	0.807	3.449	0.001	1.202	4.367



# Recommendation

- ▶ Those who have opted for Do No Email on the portal have less interested in getting into the course □ Interestingly, phone conversation shows a higher conversion rate
- ▶ Wellingak's website shows a higher coefficient for getting enrolled to the course.
- ▶ If the lead origin is Lead Add Form, the chances for buyers purchasing this course is very high compared to other means.

# Metrics evaluation

## Metrics of the train data before using optimal cut-off

```
In [ ]: 1 Accuracy: 78%  
        2 Specificity: 83%  
        3 Sensitivity : 73%
```

## Metrics of the train data after using optimal cut-off

```
In [ ]: 1 Accuracy : 79%  
        2 Specificity: 79%  
        3 Sensitivity: 79%
```

## Metrics of the test data

```
In [ ]: 1 Accuracy : 79%  
        2 Specificity: 80%  
        3 Sensitivity: 76%
```