# Lead Scoring Case Study

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Analysis and Goal Statement

- An analysis done for 'X Education' to create model which can predict hot leads so that the company could focus on these leads and achieve better lead conversion rate.

- 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 hot leads.
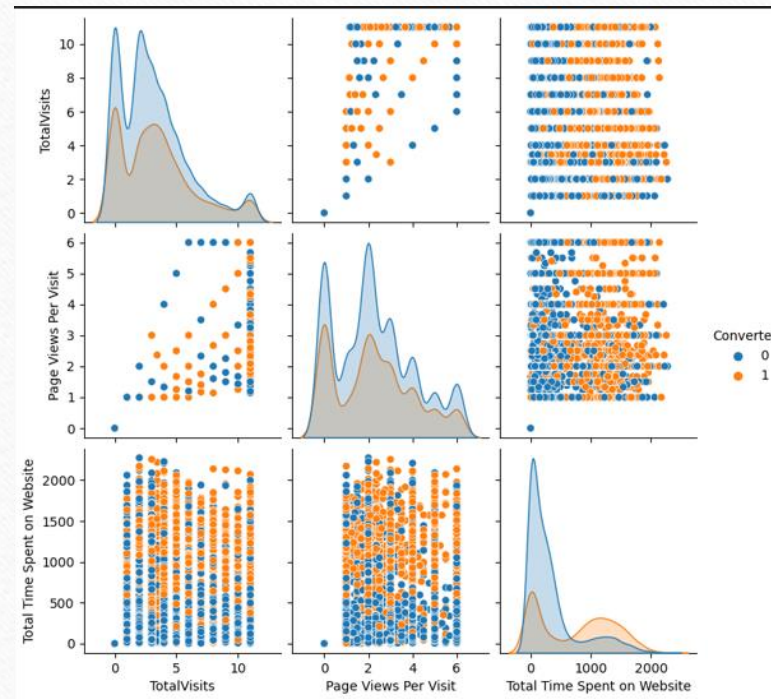
Observation 1 : Maximum potential leads were Unemployed. However, the maximum LCR is seen from the working professionals.
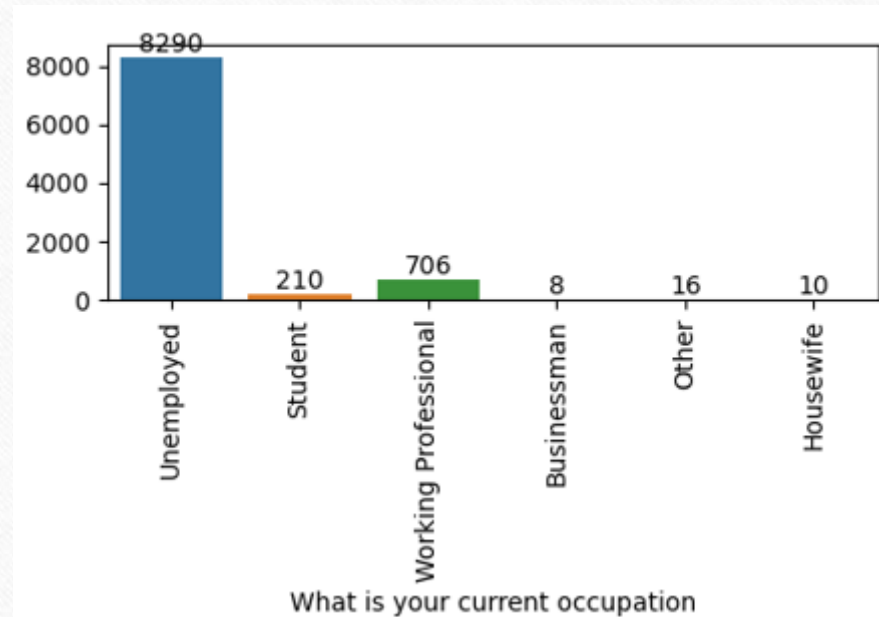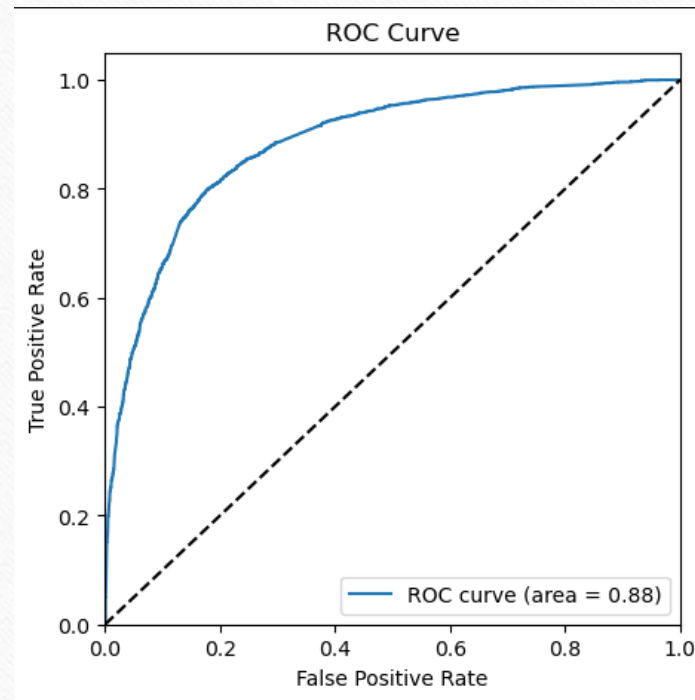
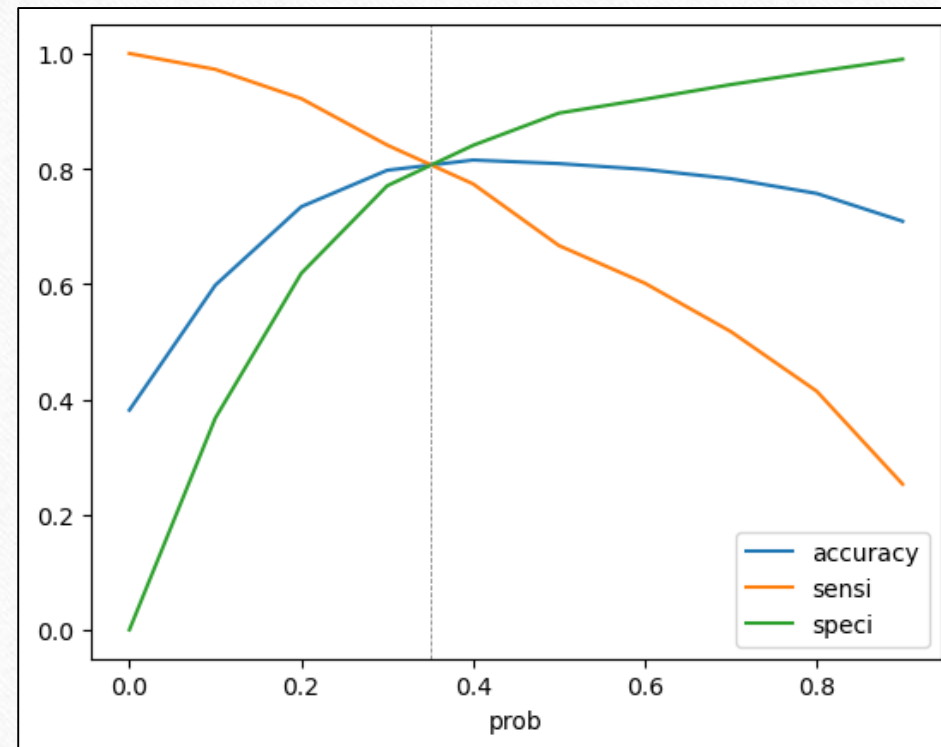# **Observation 2**: Data Imbalance ratio calculated is 0.62
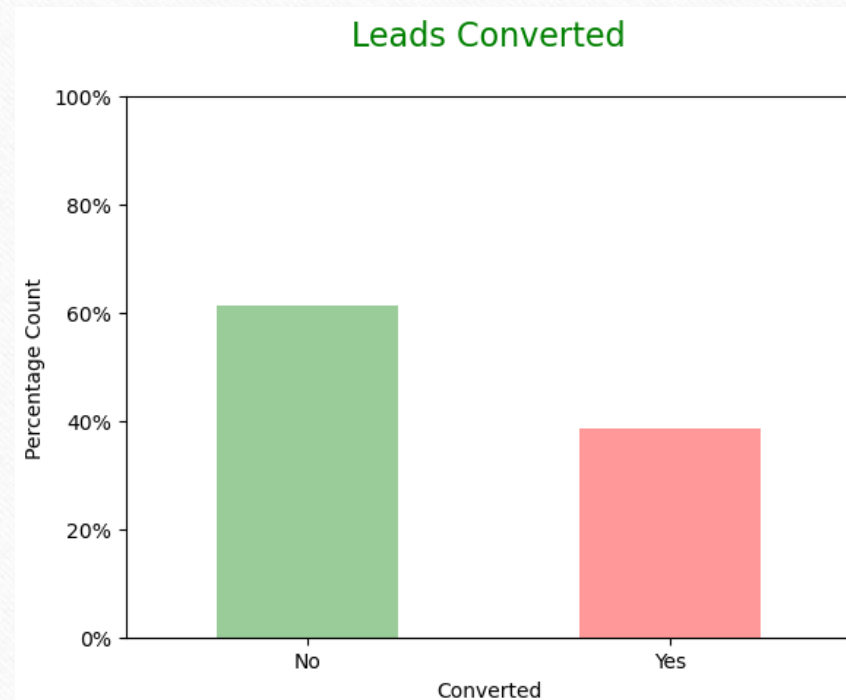
Observation 3: From the below plots we see that the variables 'TotalVisits' & 'Page Views Per Visit' have a linear relationship

Observation 4: AS evident, the Area under ROC curve is 0.88 out of 1 which indicates a good predictive model

Observation 5: The optimal cut-off probability threshold came out as 0.35

Observation 6: The 3rd Logistic Regression Model was finalized as it showed good predictive results

Train Data Set:

- **Accuracy:** 80.78%
- **Sensitivity:** 80.98%
- **Specificity:** 80.66%
- **Recall:** 80.98%

Test Data Set:

- **Accuracy:** 80.99%
- **Sensitivity:** 80.27%
- **Specificity:** 81.45%
- **Recall:** 80.27%

Conclusion

- **The evaluation shows that the values of the performance metrics on the test set are very close to those of the train set. Hence, we can conclude that our model is performing very well with predicting the data.**

- The model achieved a sensitivity of 80.27% on the test dataset with a cut-off threshold of 0.35.

- Sensitivity here reflects how many leads the model correctly identifies out of all potential converting leads.

- **The CEO of X Education had aimed for a sensitivity target of approximately 80%, which this model meets.**

- The model also reached an accuracy of 80.27%, aligning with the study's objectives.

Conclusion

- Lead Origin_Lead Add Form (Leads identified from Lead Add Form)

- Current occupation_Working Professional (Customers who mentioned their Current occupation as 'Working Professionals)

- Lead Source_Welingak Website (Source of leads is Welingak Website)

- Time spent on the website

These are top variables which contribute most towards the probability of a lead getting converted.