LEAD SCORING CASE STUDY

DETECTION OF HOT LEADS TO CONCENTRATE MORE MARKETING EFFORTS ON THEM, IMPROVING CONVERSION RATES FOR X EDUCATION

By: Manmohan Agarwala, Mohd Imran, Amit Mondal

TABLE OF CONTENTS

BACKGROUND OF X EDUCATION COMPANY

- An education company named X Education sells online courses to industry professionals.
- On any given day, many professionals who are interested in the courses land on their website and browse for courses.
- The company markets its courses on several websites and search engines like Google.
- Once these people land on the website, they might browse the courses or fill up a form for the course or watch some videos.
- When these people fill up a form providing their email address or phone number, they are classified to be a lead.
- Once these leads are acquired, employees from the sales team start making calls, writing emails, etc.
- Through this process, some of the leads get converted while most do not.
- The typical lead conversion rate at X education is around 30%.

PROBLEM STATEMENT & OBJECTIVE OF THE STUDY

Problem Statement: -

- X Education gets a lot of leads, its lead conversion rate is very poor at around 30%.
- X Education wants to make lead conversion process more efficient by identifying the most potential leads, also known as Hot Leads, which they will be focusing more on communicating rather than making calls to everyone.

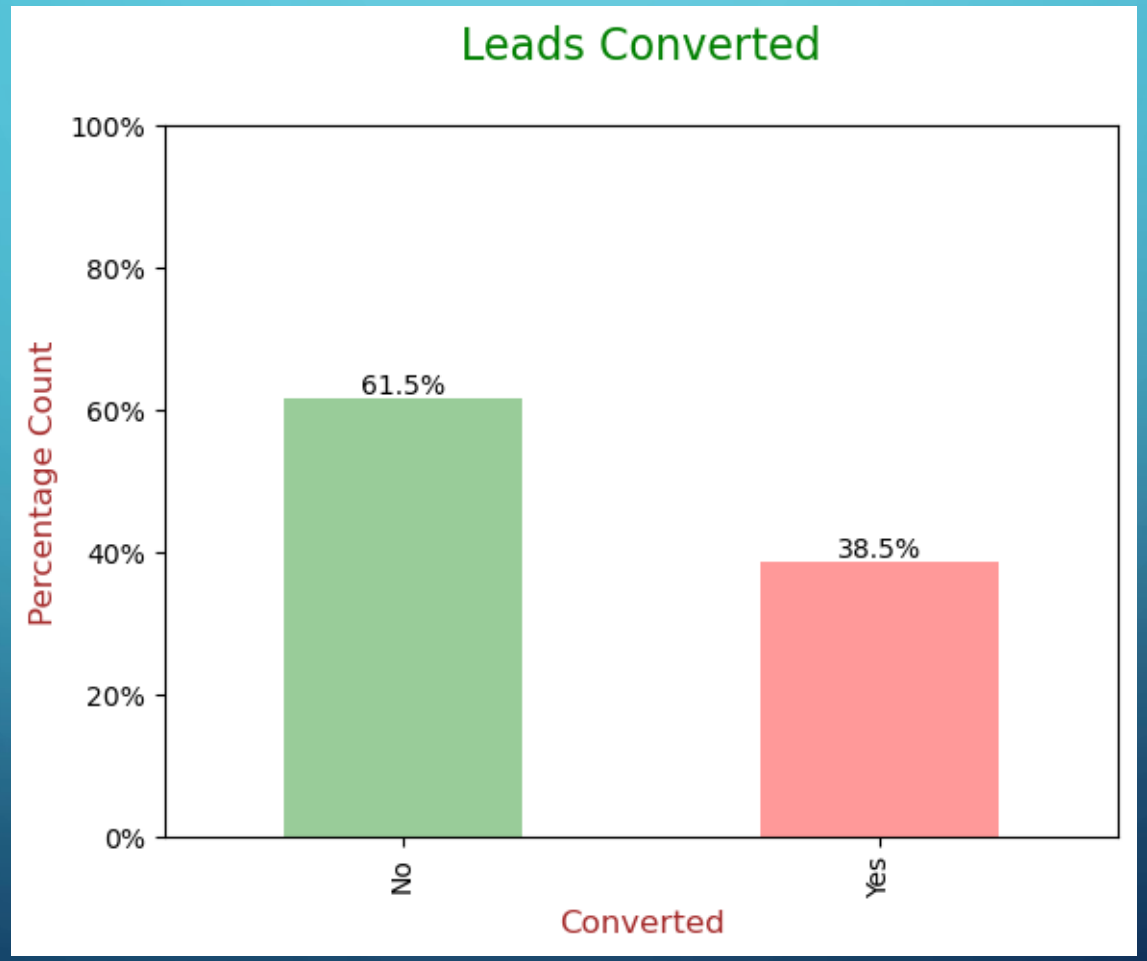
Objective of the Study: -

- To help X Education select the most promising leads, i.e., the leads that are most likely to convert into paying customers.
- The company requires us to build a model wherein we need to assign a lead score to each of the leads such that the customers with a higher lead score have a higher conversion chance and the customers with a lower lead score have a lower conversion chance.
- The CEO has given a ballpark of the target lead conversion rate to be around 80%.

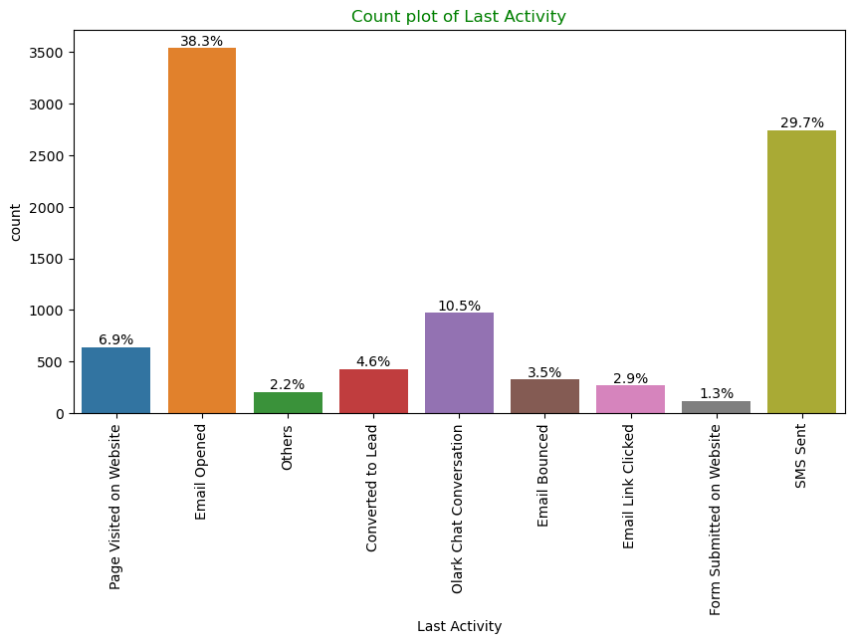
ANALYSIS APPROACH

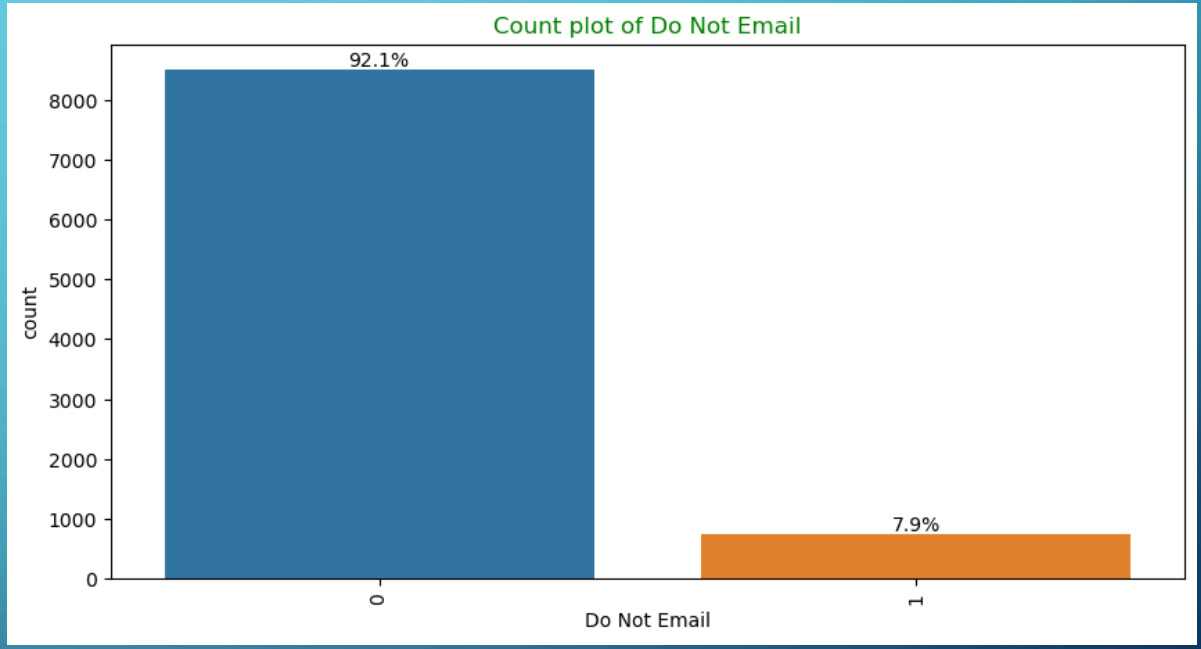
- Reading and understanding data.
- Data Cleaning: Treating ‘Select’ values, handling missing values, etc.
- Data Transformation: Changing Yes/No to binary values, grouping small share values.
- EDA: Univariate and bivariate analysis with visualizations.
- Data Preparation: Dummy variable creation.
- Train-Test Split.
- Feature Scaling: Used Standard Scaler.
- Model Builing: RFE for feature selection, then manually selecting different features based on p-values and vif.
- Model Evaluation: Checking Different model metrics on train and test sets.

EDA CHARTS: DATA IMBALANCE

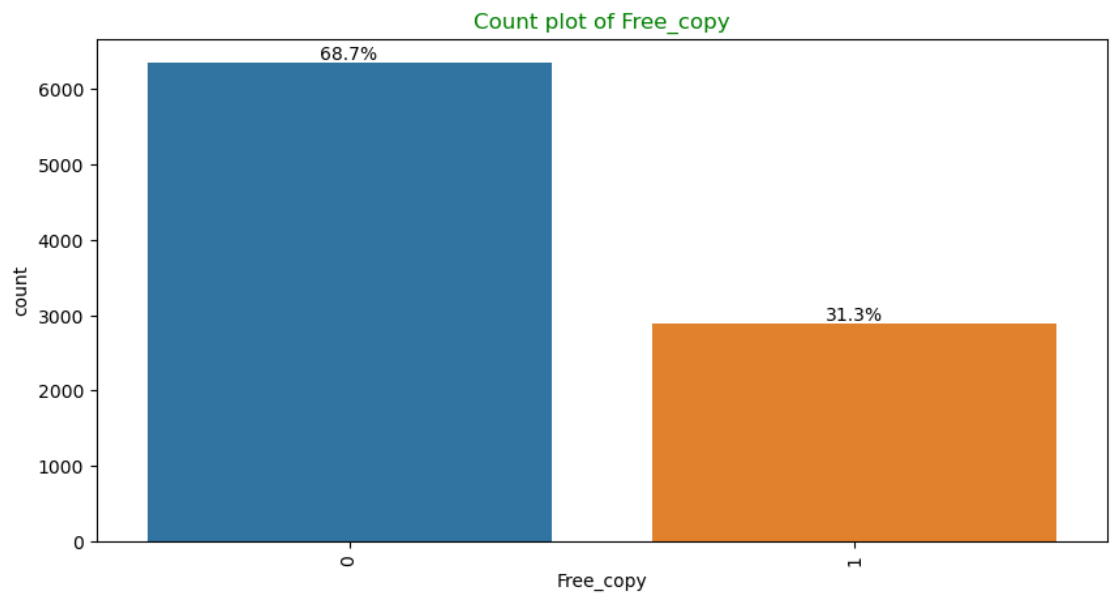


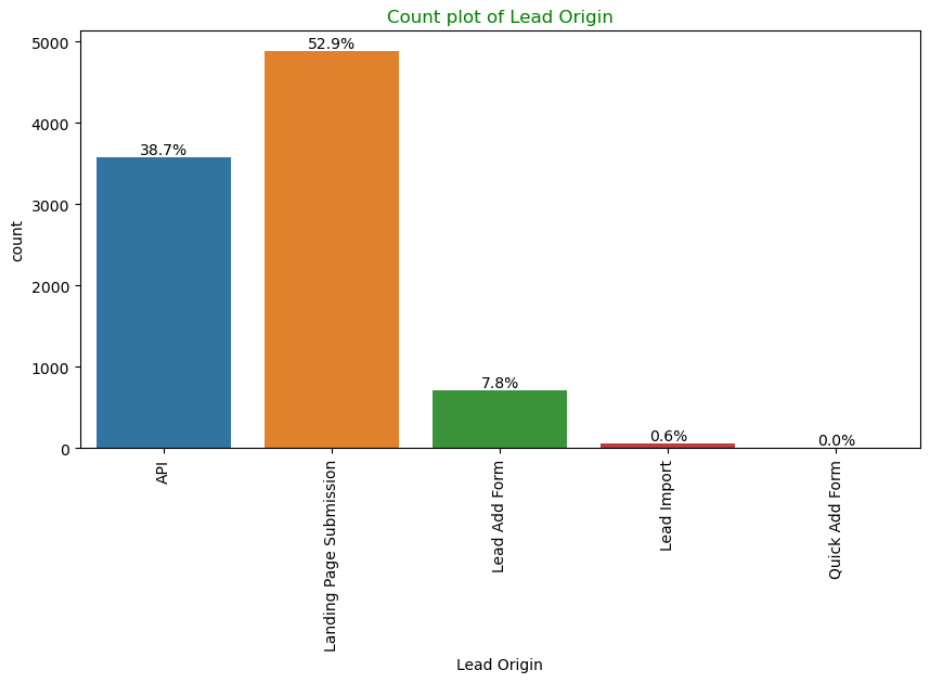
EDA CHARTS: UNIVARIATE ANALYSIS



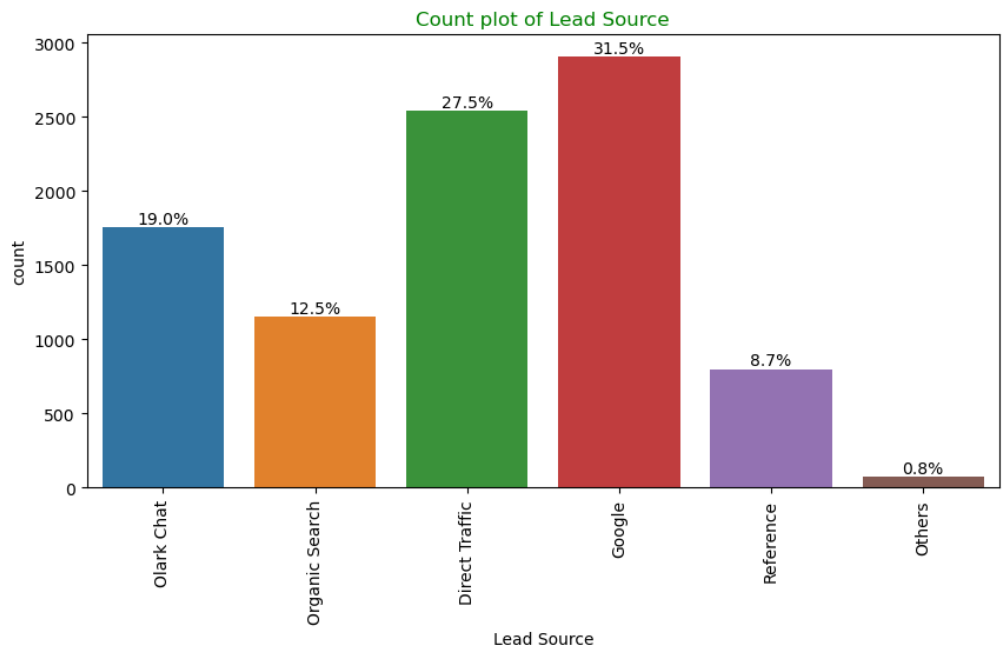


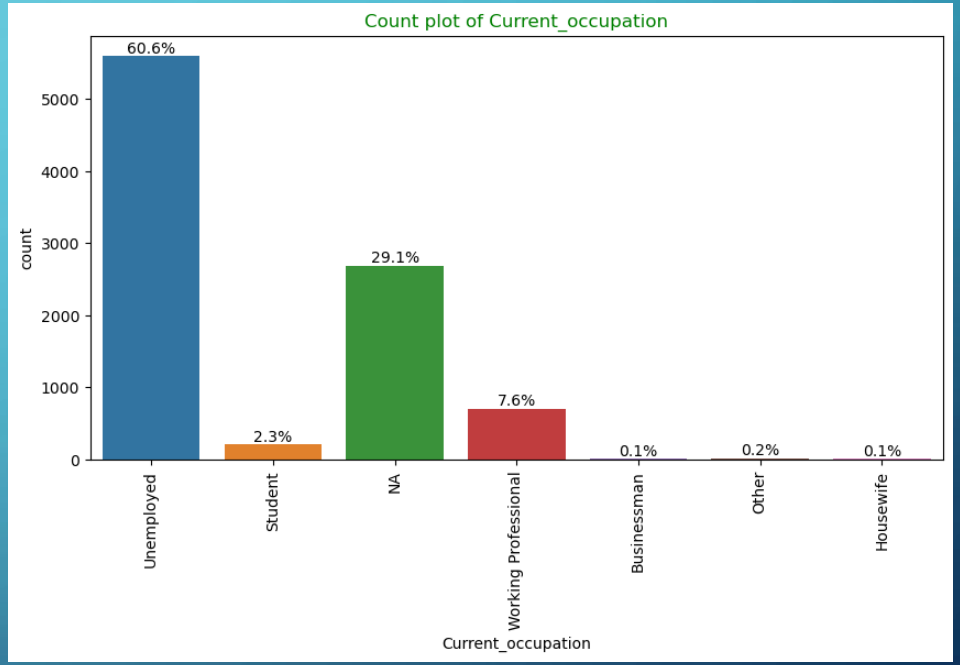
EDA CHARTS: UNIVARIATE ANALYSIS



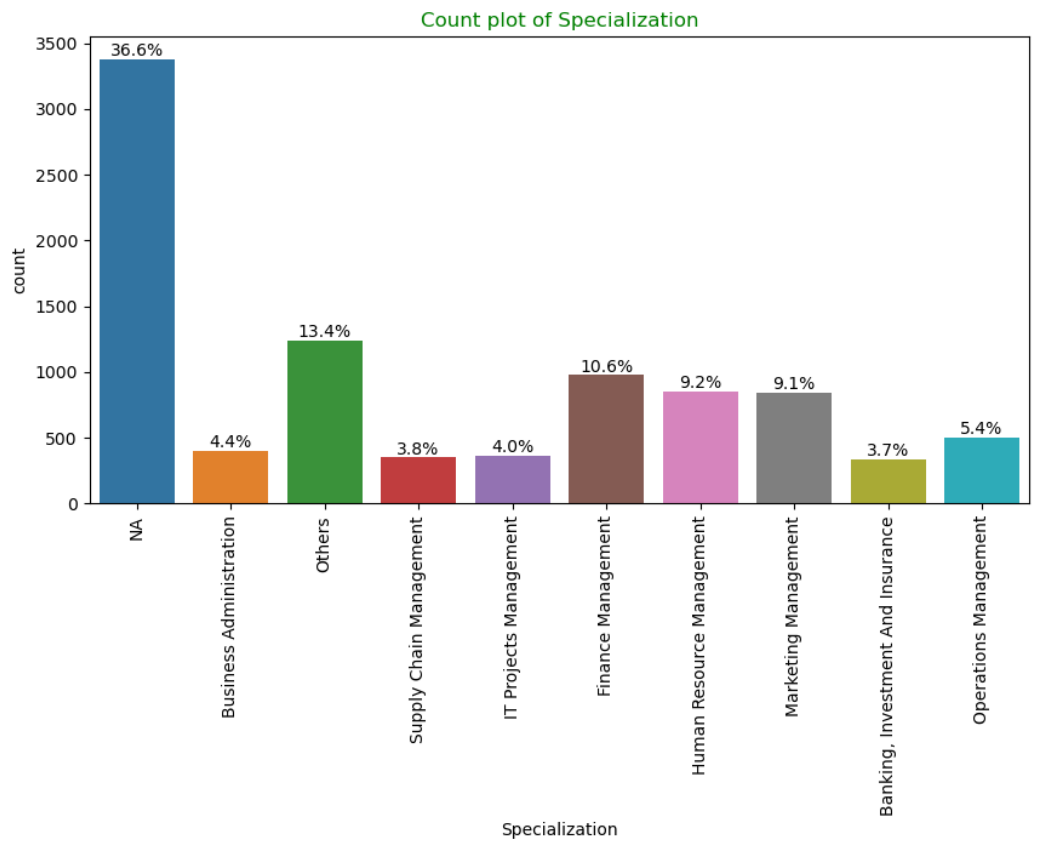


EDA CHARTS: UNIVARIATE ANALYSIS

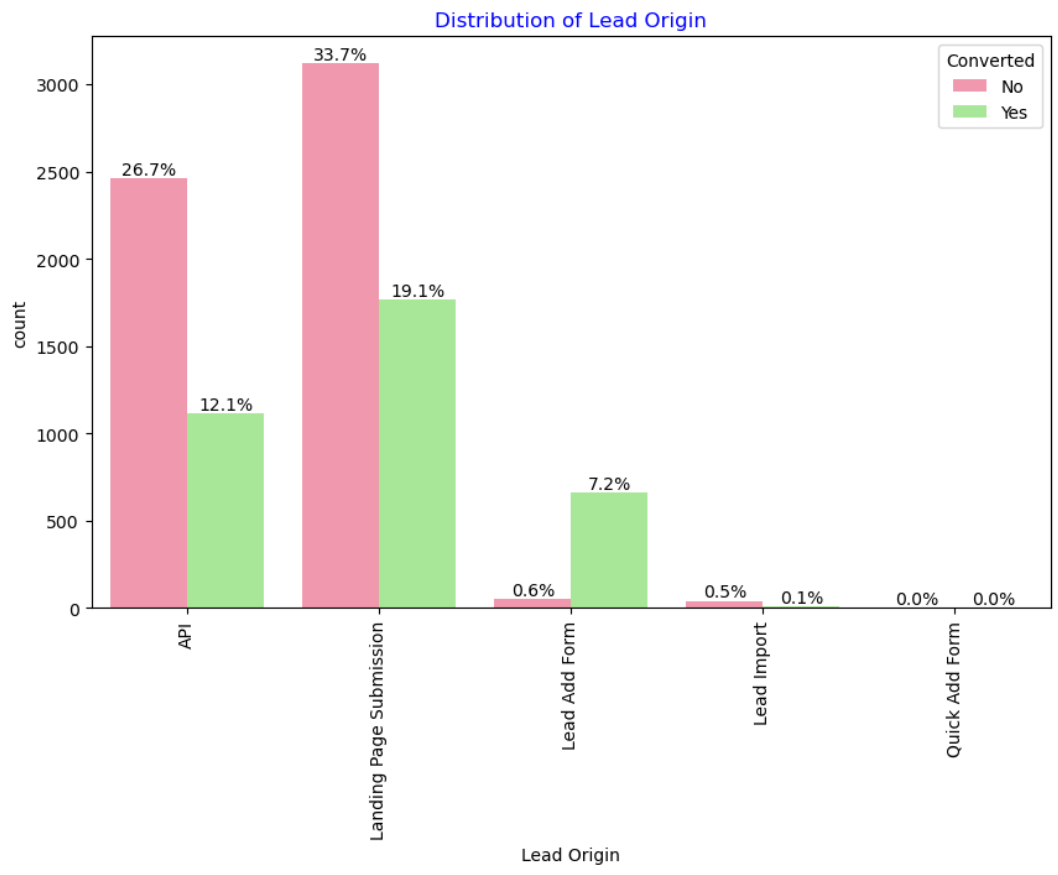


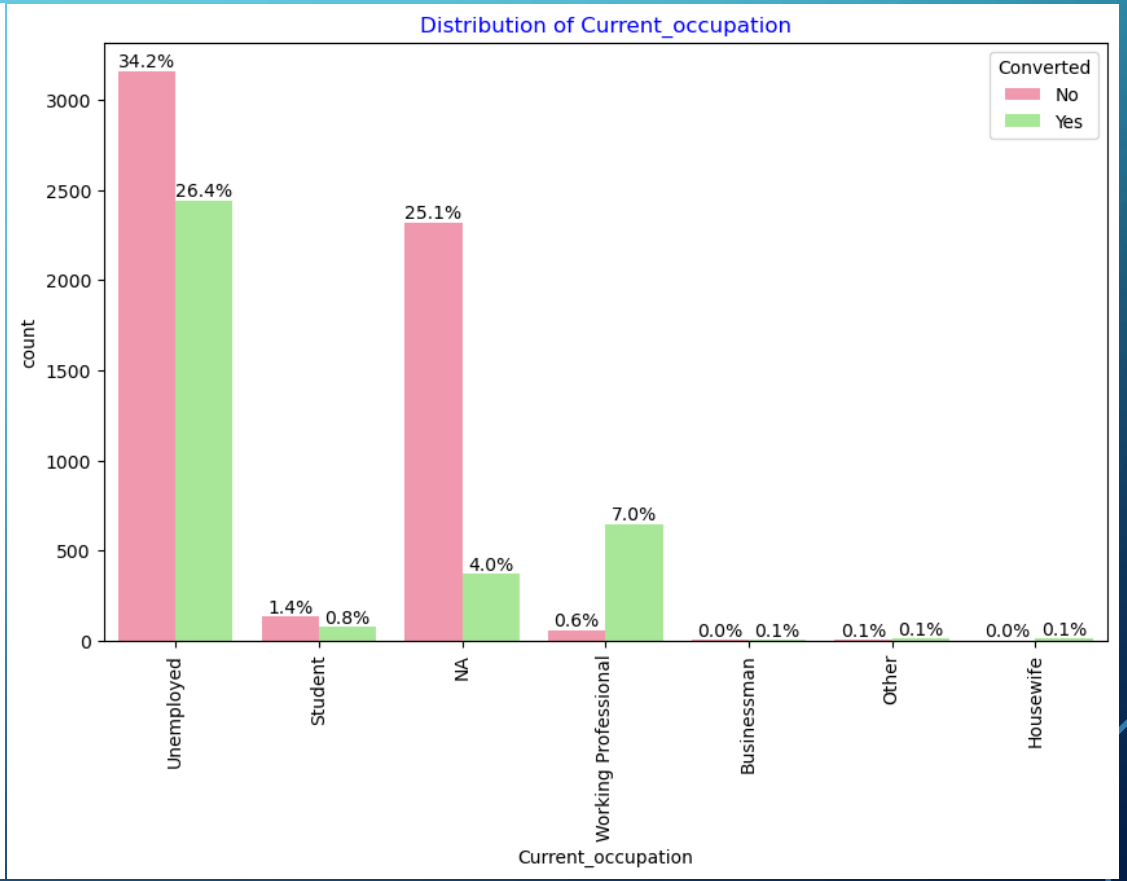


EDA CHARTS: UNIVARIATE ANALYSIS

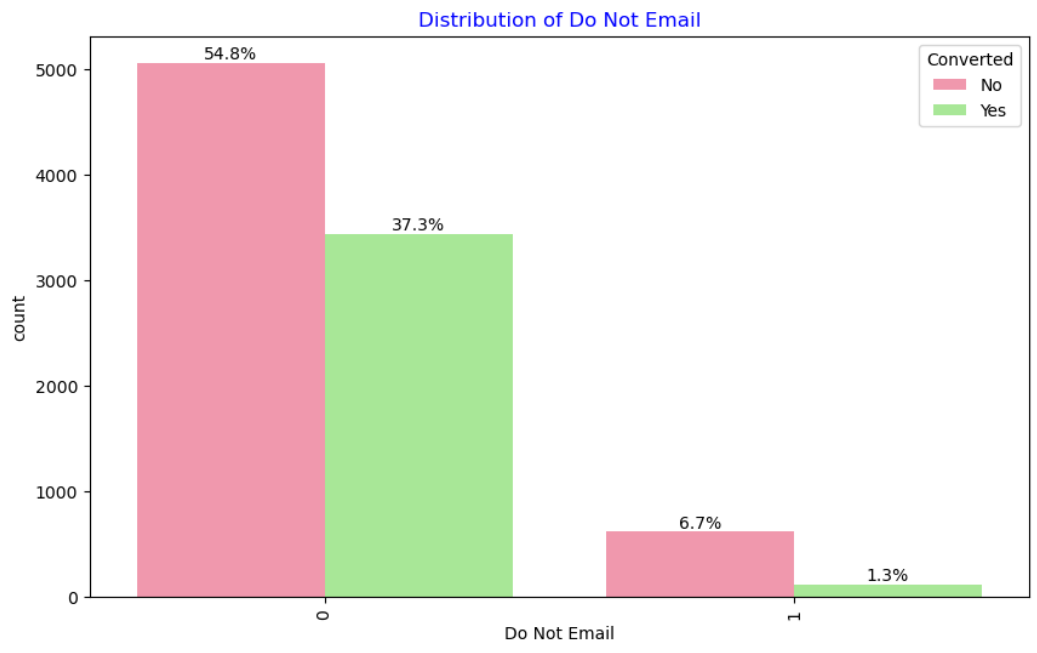


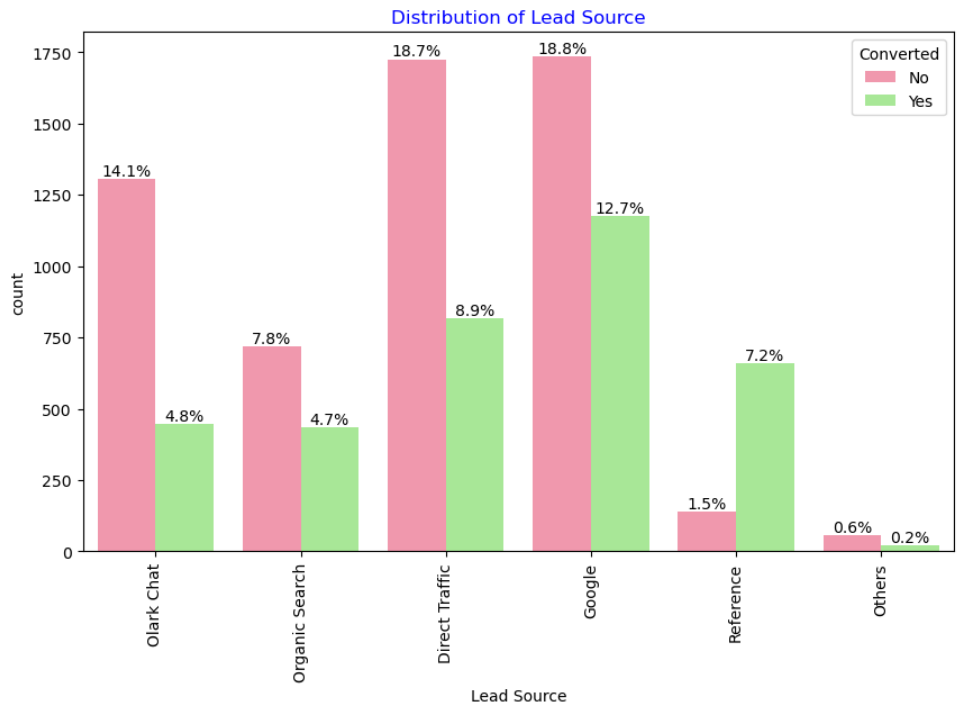
EDA CHARTS: BIVARIATE ANALYSIS



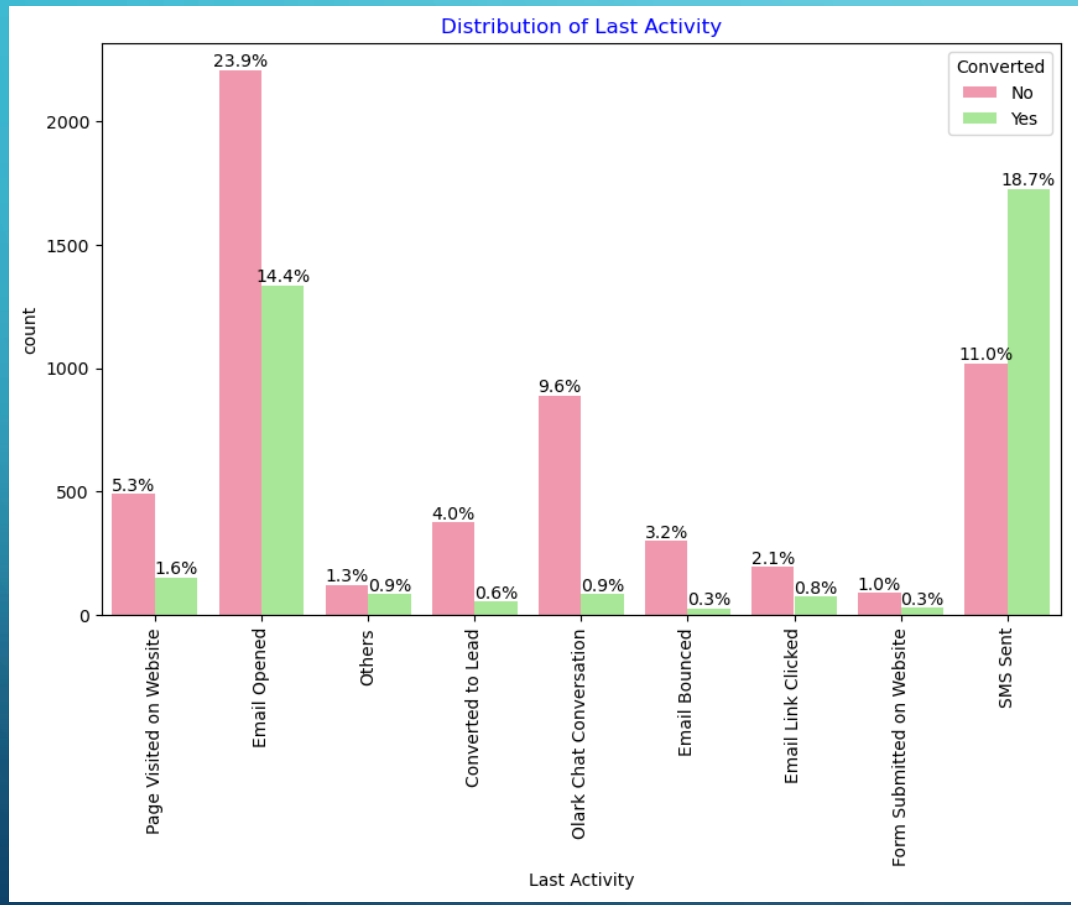


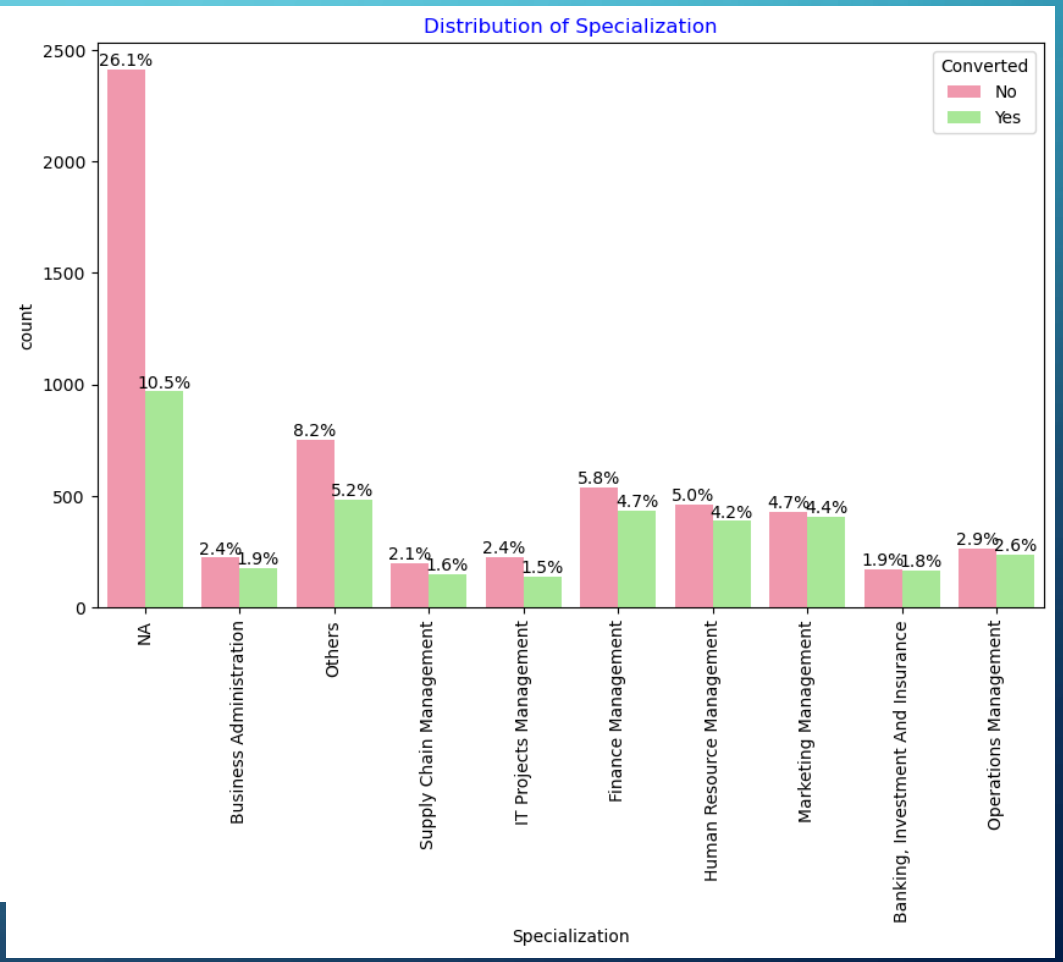
EDA CHARTS: BIVARIATE ANALYSIS



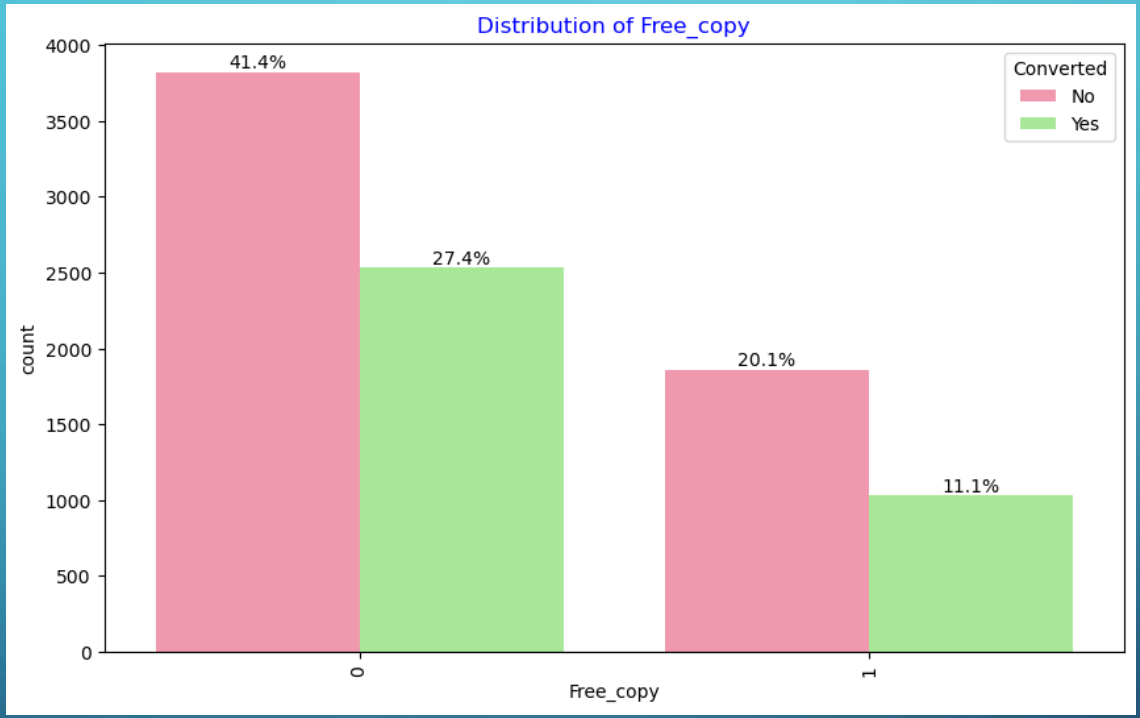


EDA CHARTS: BIVARIATE ANALYSIS

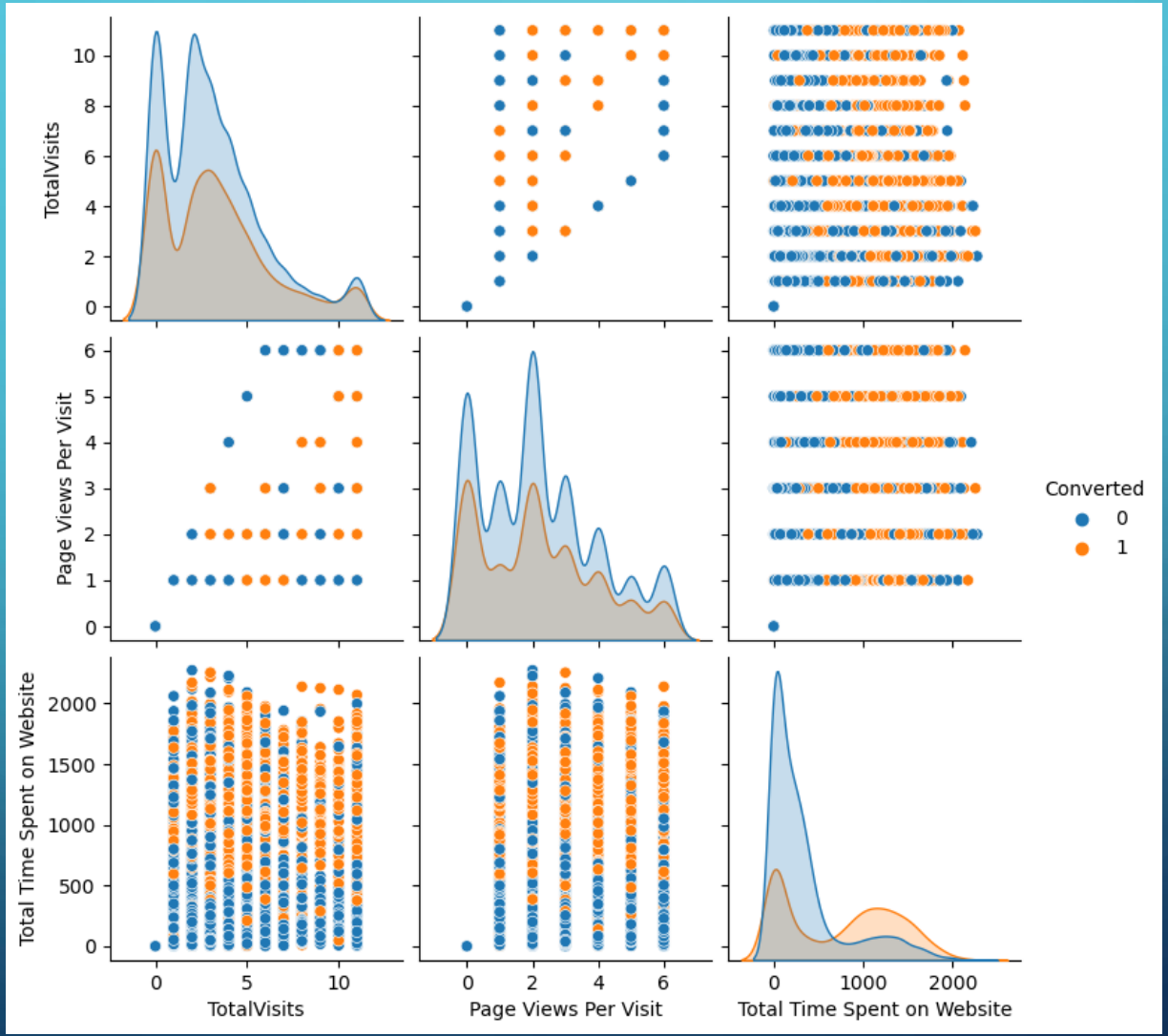




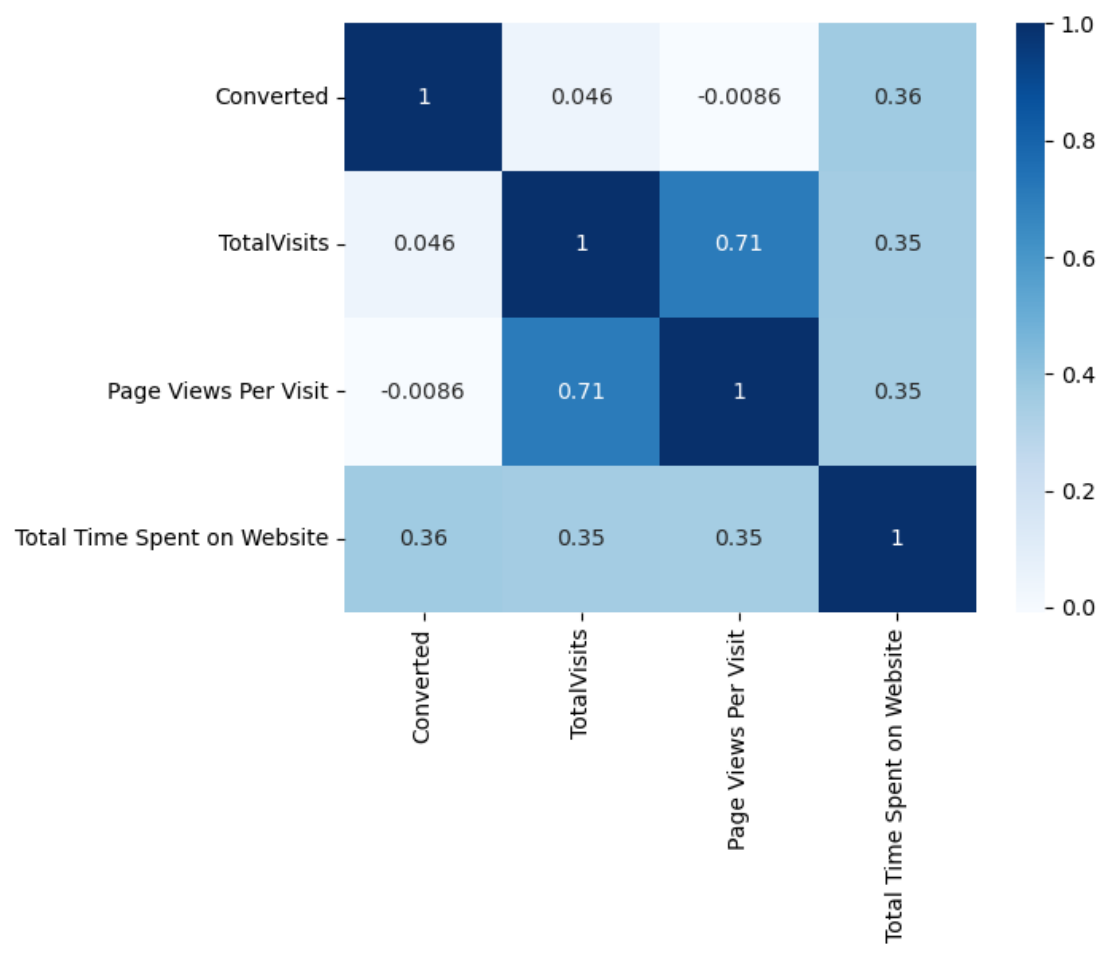
EDA CHARTS: BIVARIATE ANALYSIS



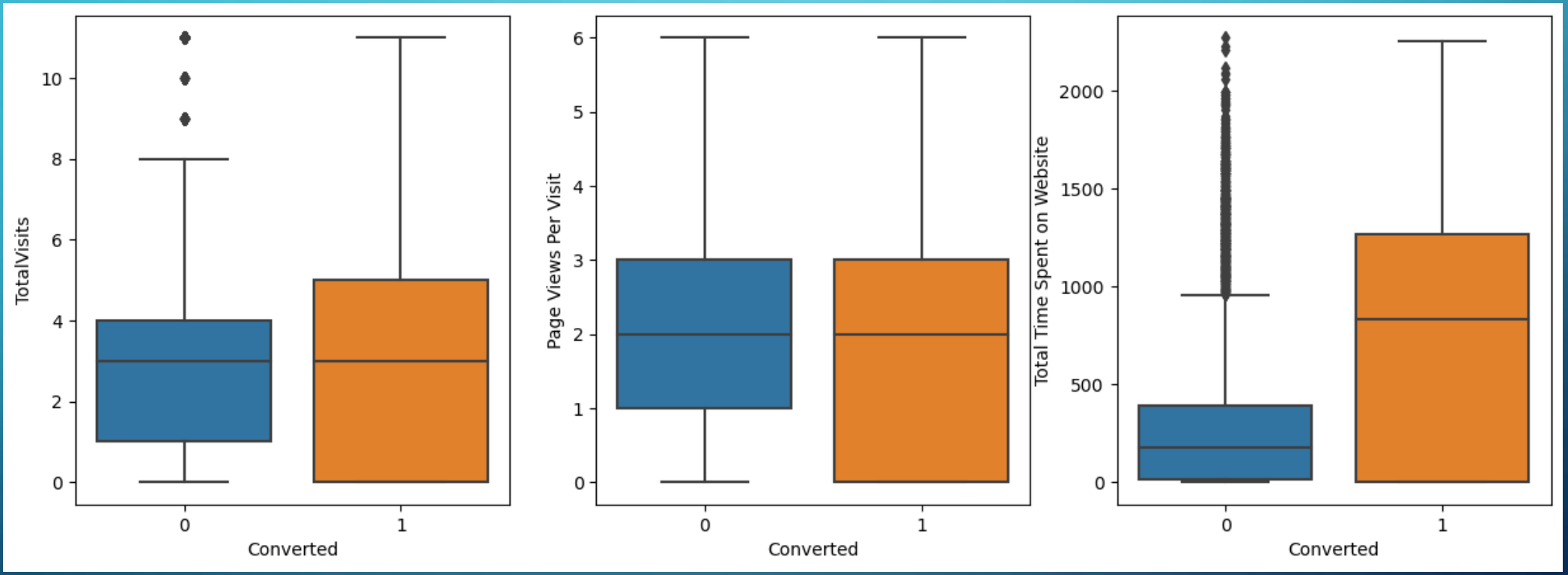
EDA CHARTS: BIVARIATE ANALYSIS



EDA CHARTS: BIVARIATE ANALYSIS



EDA CHARTS: BIVARIATE ANALYSIS

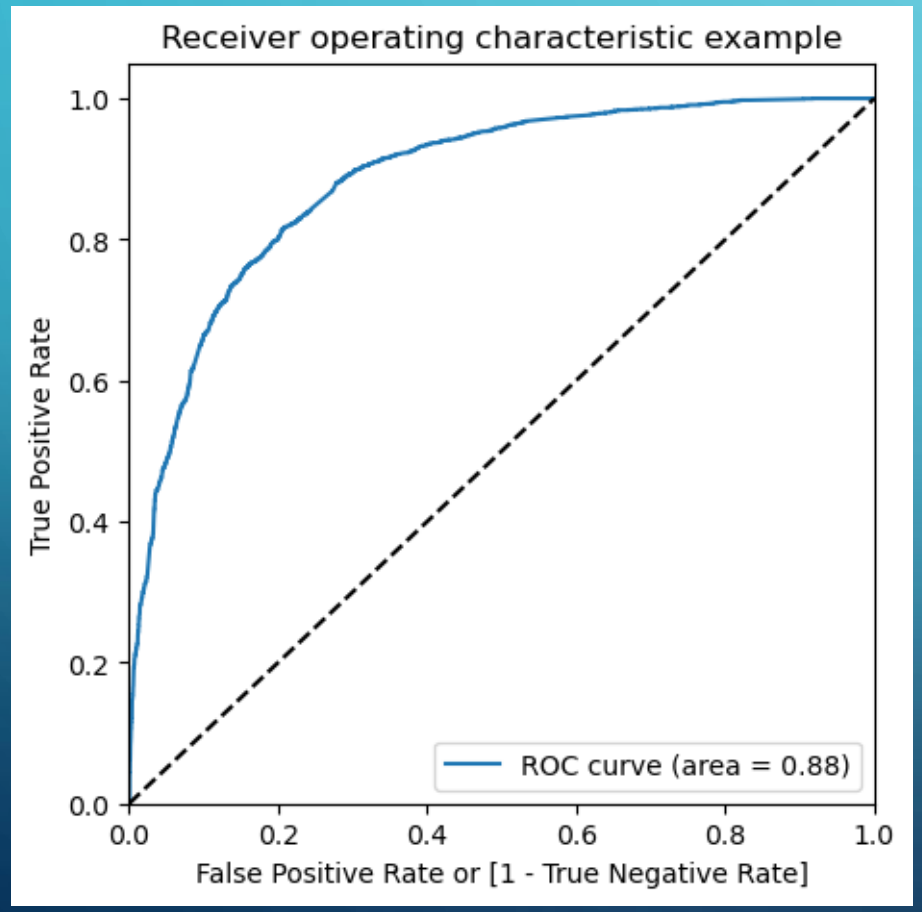


MODEL EVALUATION METRICS

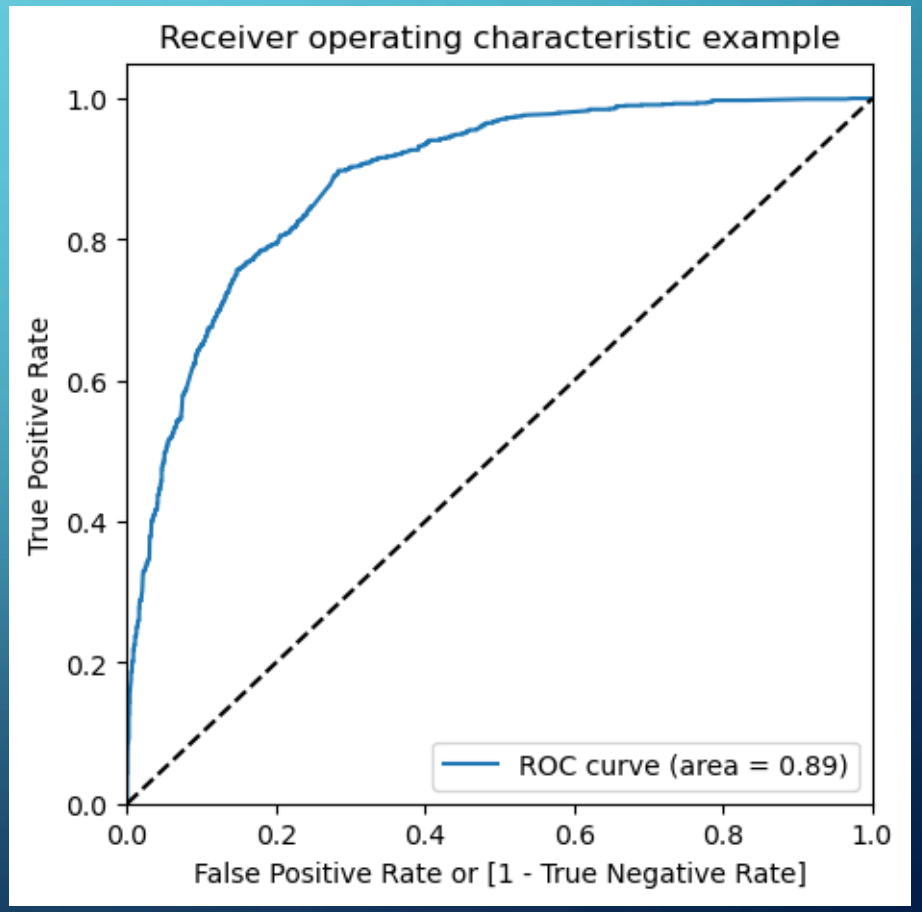
Metrics	Train Set (%)	Test Set (%)
Accuracy	80.09	79.73
Sensitivity	80.21	79.91
Specificity	80.01	79.61
Precision	71.20	71.90
Recall	80.21	79.91

MODEL EVALUATION CHARTS: ROC

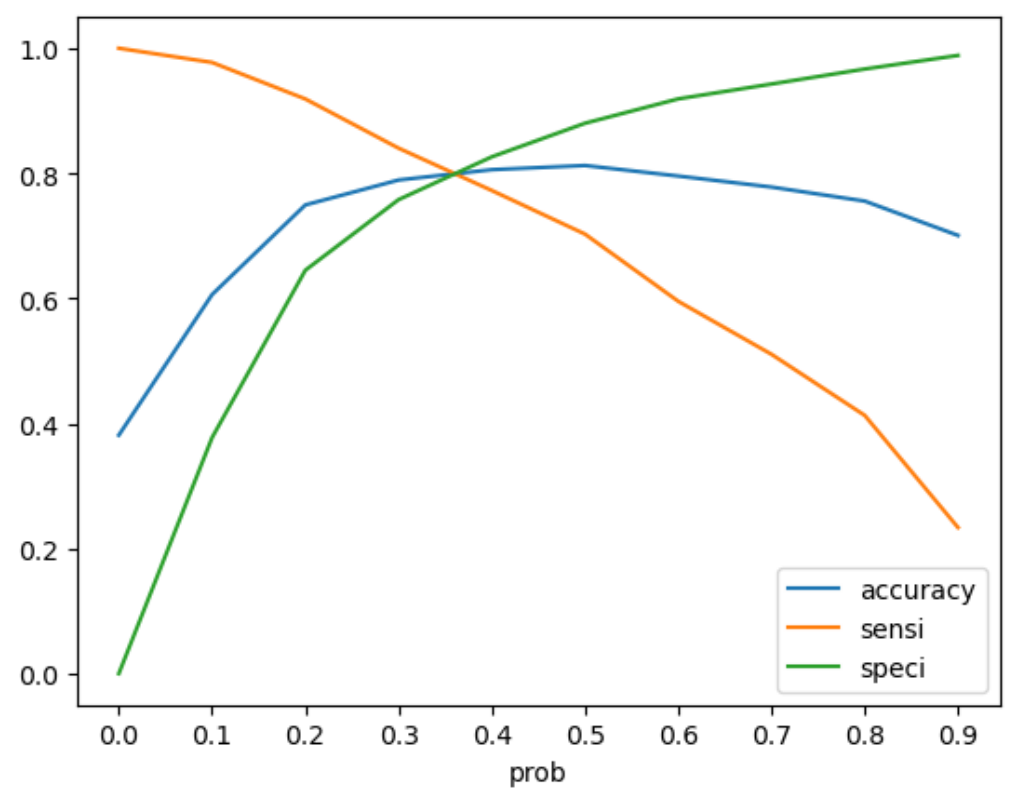
Train Set

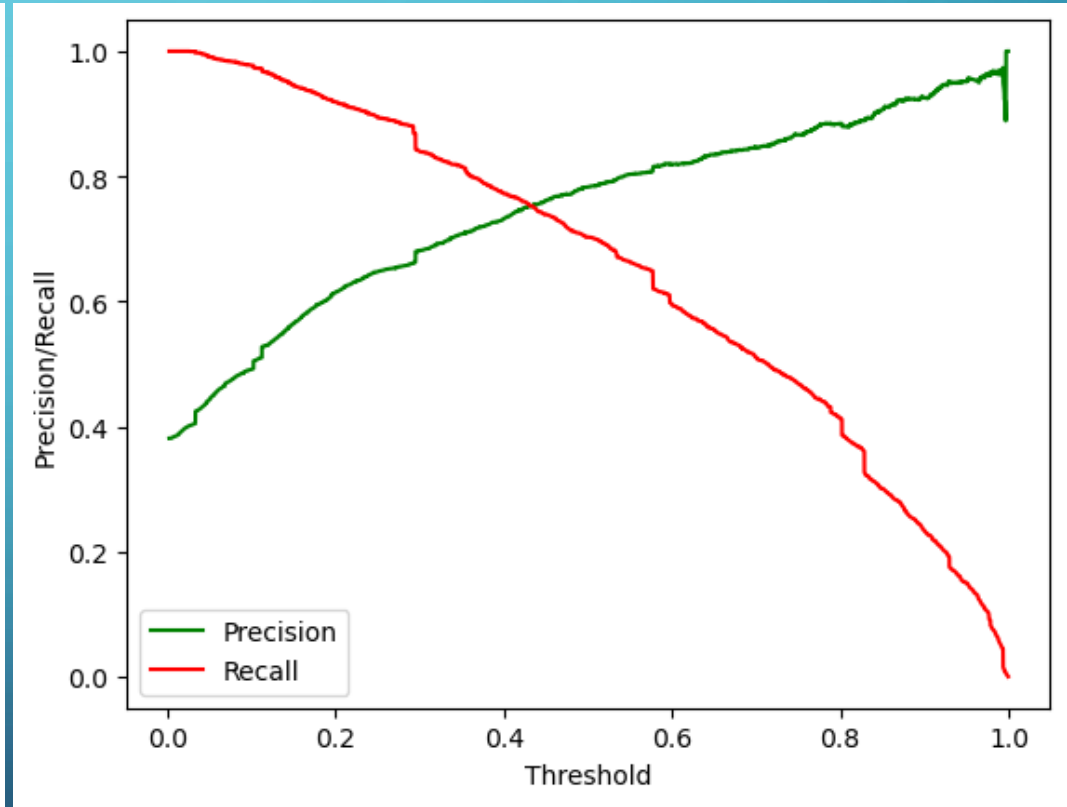


Test Set



MODEL EVALUATION CHARTS: ACCURACY, SENSITIVITY AND SPECIFICITY; PRECISION AND RECALL





RECOMMENDATIONS

To increase lead conversion rate: -

- Focus on features with positive coefficients for targeted marketing strategies.
- Develop strategies to attract high-quality leads from top-performing lead sources.
- Optimize communication channels based on lead engagement impact.
- Engage working professionals with tailored messaging.
- Incentives/discounts for providing reference that convert to lead, encourage providing more references.

To identify areas of improvement: -

- Analyze negative coefficients in specialization offerings.

THANK YOU!