

The background features a large white circle in the center, partially overlapping a light blue rectangle on the left and a light pink rectangle on the right. A dark blue shape, resembling a stylized arch or a large 'U', is positioned at the bottom, framing the white circle.

# **LEAD SCORING CASE STUDY**

# AGENDA

Business Problem

Visualization Data

EDA

Univariate & Bivariate Analysis

Model Building

Feature Scaling

Evaluation Of Model



# BUSINESS PROBLEM

1. An education company named X Education sells online courses to industry professionals.
2. 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
3. Now, although X Education gets a lot of leads, its lead conversion rate is very poor. For example, if, say, they acquire 100 leads in a day, only about 30 of them are converted
4. The company requires you to build a model wherein you 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

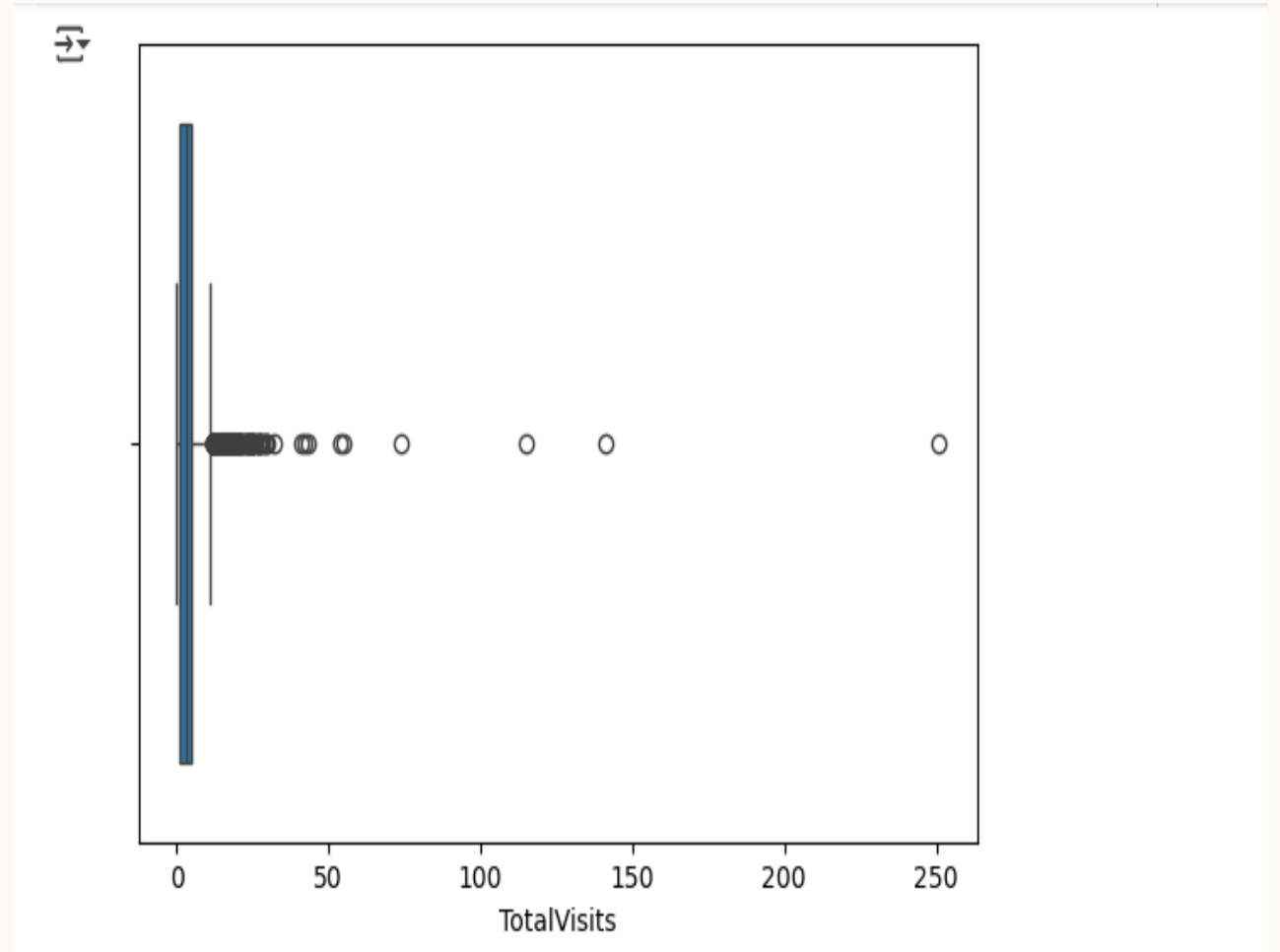
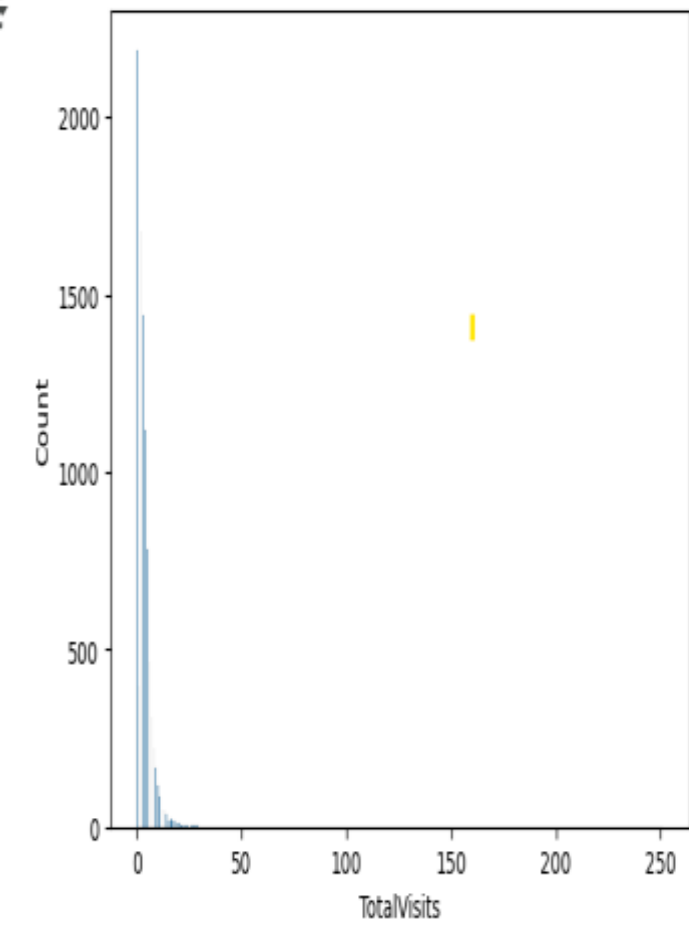
# **VISUALIZATION DATA:-**

The data contains approximately 9240 rows and 37 columns.

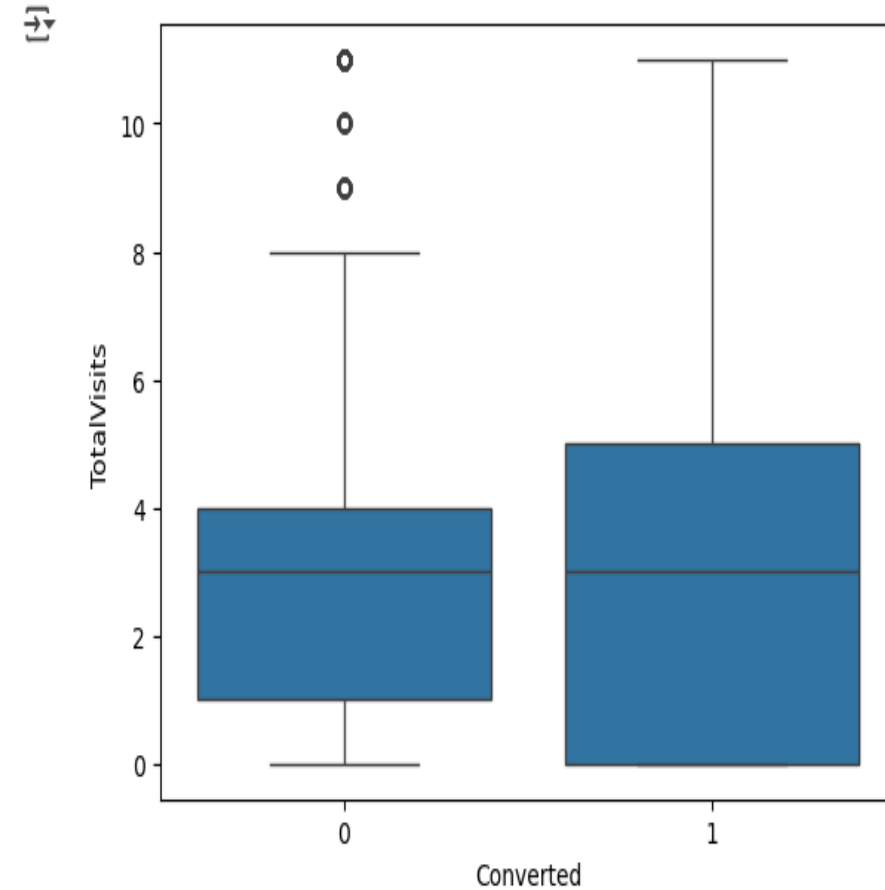
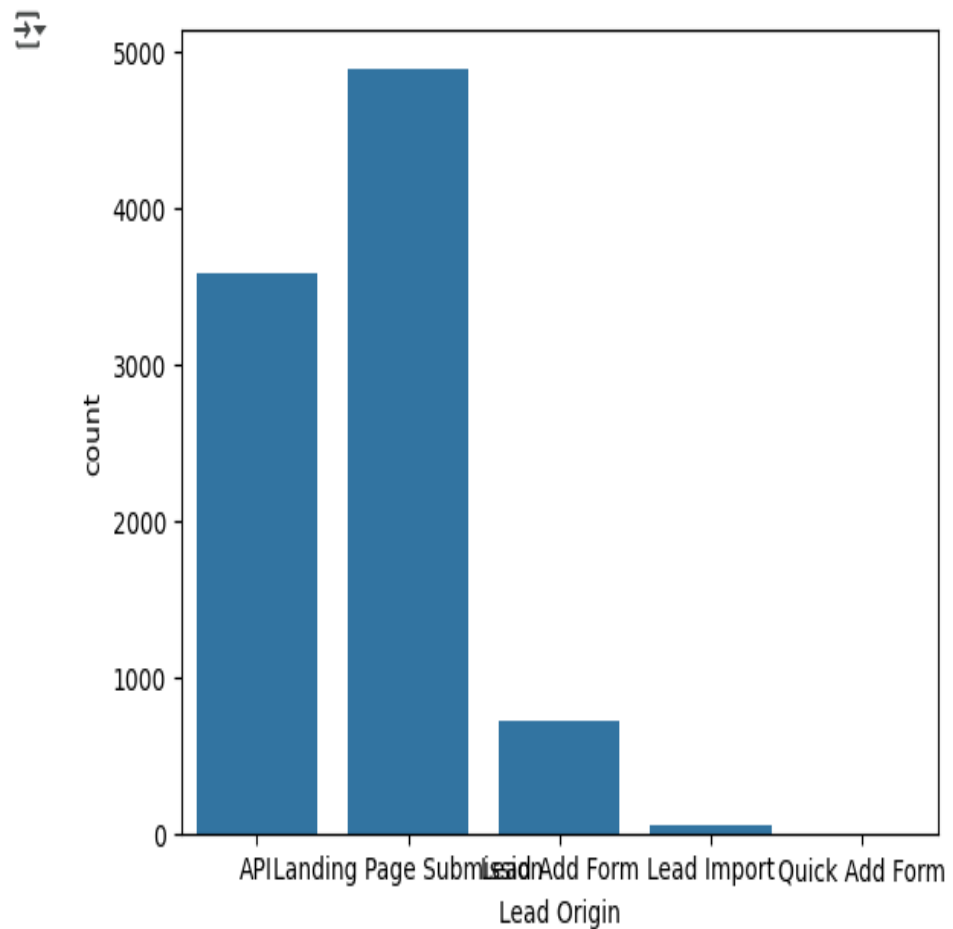
The 37 columns represents our 37 features on which we will work



code + Text



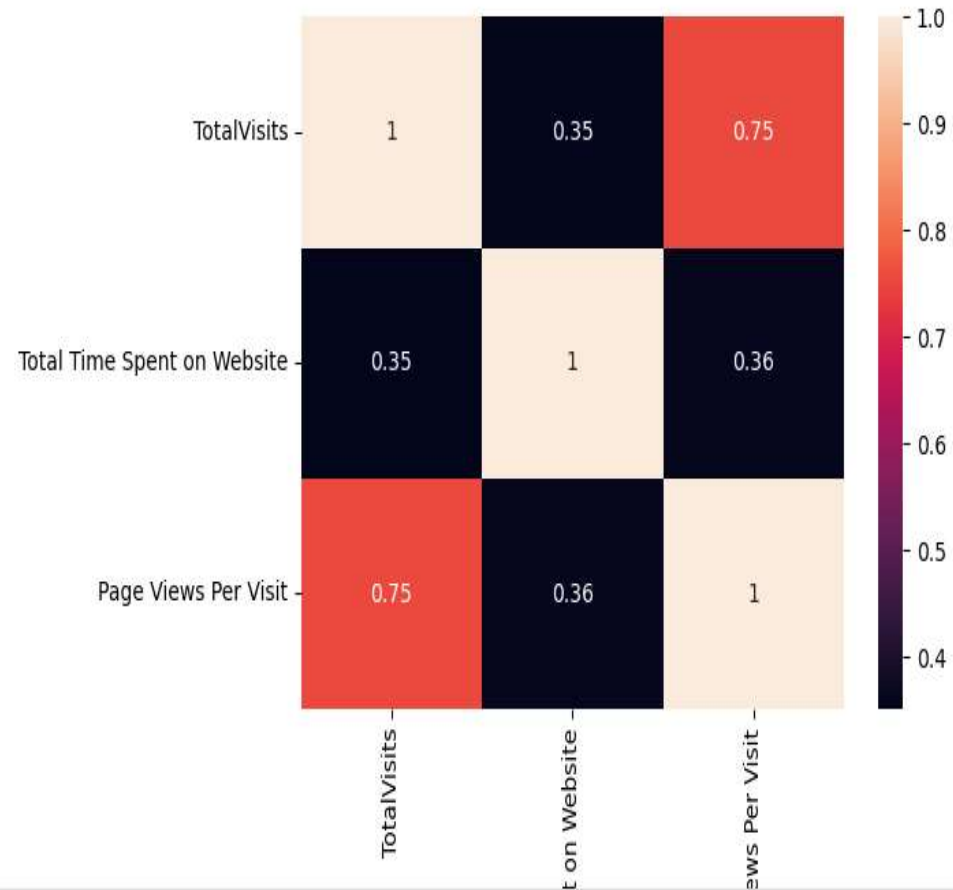
# UNIVARIATE & BIVARIATE ANALYSIS



# MULTIVARIATE ANALYSIS

7

[4]



# MODEL BUILDING

lmfit() Summary()



## Generalized Linear Model Regression Results

<b>Dep. Variable:</b> Converted	<b>No. Observations:</b> 7392
<b>Model:</b> GLM	<b>Df Residuals:</b> 7279
<b>Model Family:</b> Binomial	<b>Df Model:</b> 112
<b>Link Function:</b> Logit	<b>Scale:</b> 1.0000
<b>Method:</b> IRLS	<b>Log-Likelihood:</b> -1837.7
<b>Date:</b> Sun, 16 Feb 2025	<b>Deviance:</b> 3675.5
<b>Time:</b> 16:27:30	<b>Pearson chi2:</b> 1.75e+04
<b>No. Iterations:</b> 36	<b>Pseudo R-squ. (CS):</b> 0.5655
<b>Covariance Type:</b> nonrobust	





# FEATURE SCALING



## Generalized Linear Model Regression Results

<b>Dep. Variable:</b> Converted	<b>No. Observations:</b> 7392
<b>Model:</b> GLM	<b>Df Residuals:</b> 7376
<b>Model Family:</b> Binomial	<b>Df Model:</b> 15
<b>Link Function:</b> Logit	<b>Scale:</b> 1.0000
<b>Method:</b> IRLS	<b>Log-Likelihood:</b> -2055.2
<b>Date:</b> Sun, 16 Feb 2025	<b>Deviance:</b> 4110.5
<b>Time:</b> 16:37:10	<b>Pearson chi2:</b> 1.33e+04
<b>No. Iterations:</b> 9	<b>Pseudo R-squ. (CS):</b> 0.5391
<b>Covariance Type:</b> nonrobust	



# FEATURE SCALING

- ✓ These are the top 20 variables selected by RFE

```
[ ] col = X_train.columns[rfe.support_]
    col
```

```
⇒ Index(['Do Not Email', 'Total Time Spent on Website',
        'Lead Origin_Lead Add Form', 'Lead Source_Welingak Website',
        'Tags_Busy', 'Tags_Closed by Horizzon',
        'Tags_Diploma holder (Not Eligible)', 'Tags_Interested in Next batch',
        'Tags_Lateral student', 'Tags_Lost to EINS', 'Tags_Ringing',
        'Tags_Will revert after reading the email', 'Tags_in touch with EINS',
        'Tags_invalid number', 'Tags_switched off', 'Tags_wrong number given',
        'CurOccu_Unemployed', 'CurOccu_Working Professional',
        'LastNotAct_Had a Phone Conversation', 'LastNotAct_SMS Sent'],
        dtype='object')
```

# MODEL EVALUATION




	Features	VIF
2	Lead Origin_Lead Add Form	1.63
13	LastNotAct_SMS Sent	1.50
8	Tags_Will revert after reading the email	1.42
3	Lead Source_Welingak Website	1.25
5	Tags_Closed by Horizzon	1.22
11	CurOccu_Working Professional	1.20
7	Tags_Ringing	1.10
1	Total Time Spent on Website	1.09
0	Do Not Email	1.06
4	Tags_Busy	1.03
10	Tags_switched off	1.03
6	Tags_Lost to EINS	1.01
9	Tags_in touch with EINS	1.00
12	LastNotAct_Had a Phone Conversation	1.00



	HotLead	HotLead_Prob	Lead Number
7263	1	0.973785	7263
6468	0	0.089525	6468
7833	1	0.614478	7833
4461	0	0.273566	4461
8453	0	0.151092	8453

# CONFUSION METRICS



```
[[4249 314]
 [ 459 2370]]
```

Accuracy:- 89%

Recall:- 83%



**THANK  
YOU**

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