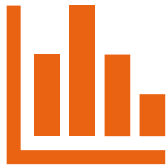# Lead Scoring Analysis

Presented to the Chief Data Scientist

Date: 17/09/2024

Presenter: Kousalya M

Problem Statement

▶ X Education experiences a low lead conversion rate of approximately 30%. The goal is to enhance lead conversion by identifying and prioritizing high-potential leads, known as 'Hot Leads', to improve the efficiency and effectiveness of the sales team.

Analysis Approach

- ▶ 1. Data Cleaning: Handling missing values and encoding categorical variables.

- ▶ 2. Feature Engineering: Conversion of categorical variables to numerical format.

- ▶ 3. Model Building: Logistic Regression to predict lead conversion.

- ▶ 4. Evaluation: Metrics to assess model performance.

Data Overview

▶ The dataset includes approximately 9000 records with attributes such as Lead Source, Total Time Spent on Website, Total Visits, and Last Activity. Summary statistics reveal data distribution and highlight any anomalies.

Data Cleaning

- ► 1. Replaced 'Select' values with NaN.
- ► 2. Filled missing values in numeric columns with the median.
- ► 3. Filled missing values in categorical columns with 'Unknown'.
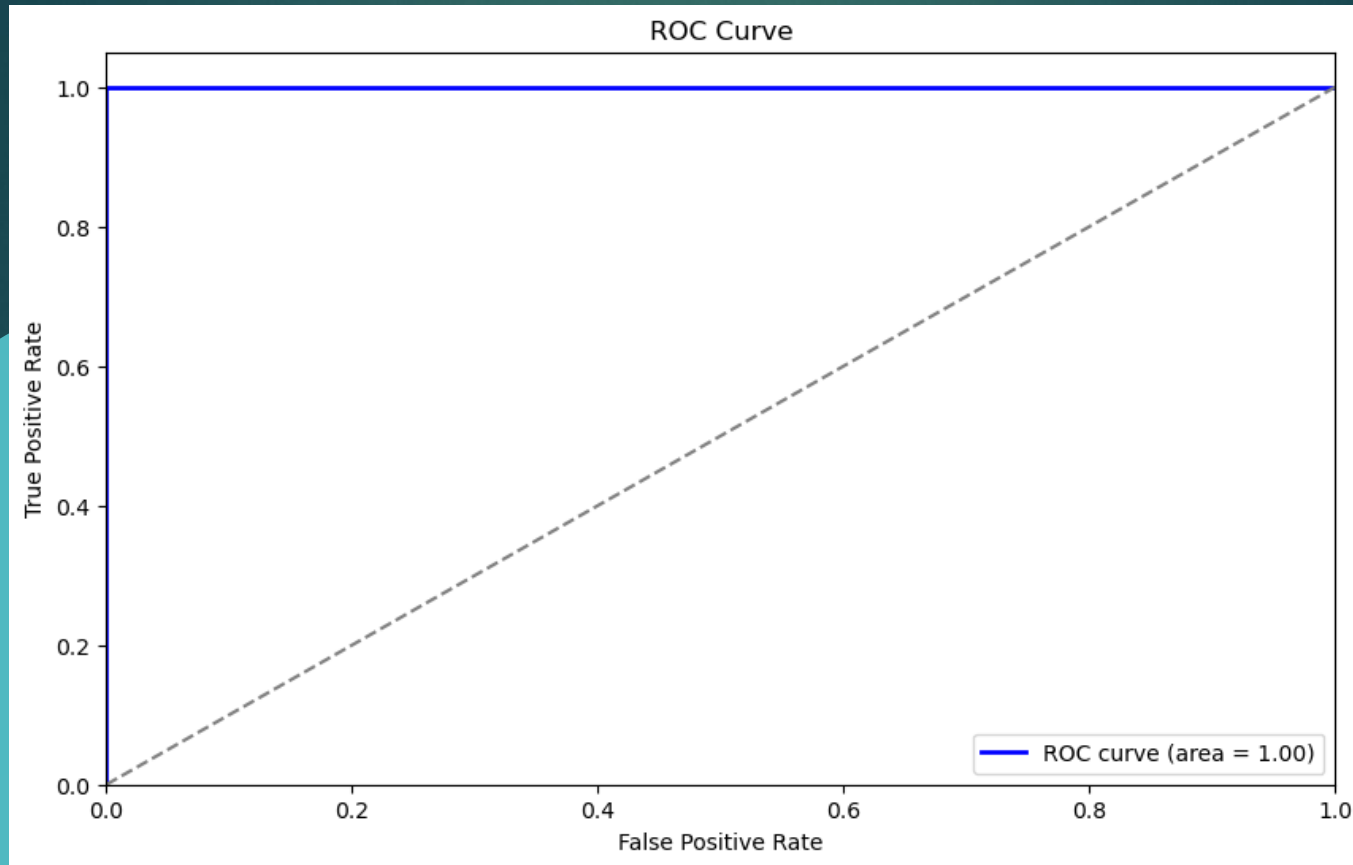
Feature Encoding

Example of Feature Encoding
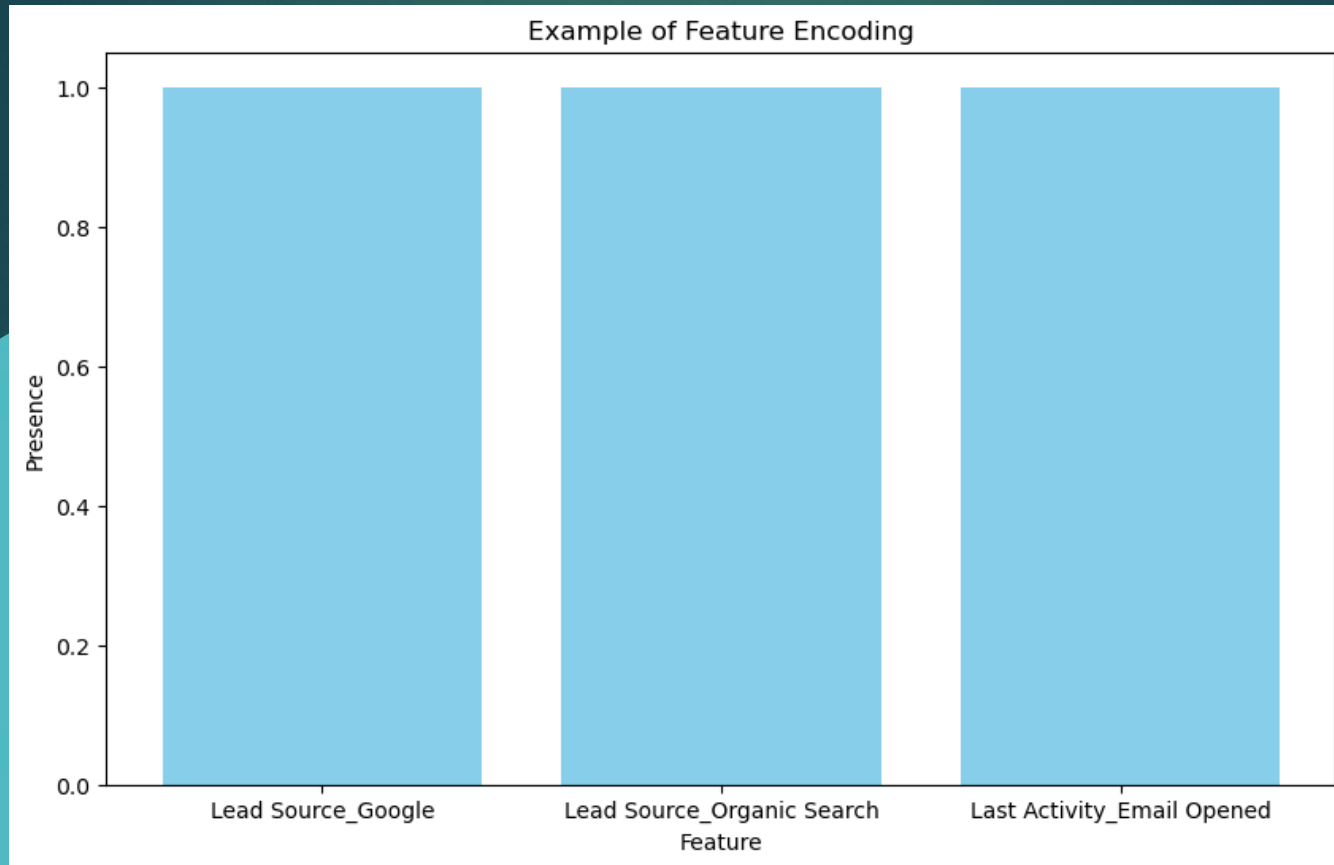
Model Building

- Logistic Regression was used to model lead conversion. The model was trained on 70% of the data and tested on 30%. Key parameters: max_iter=1000.
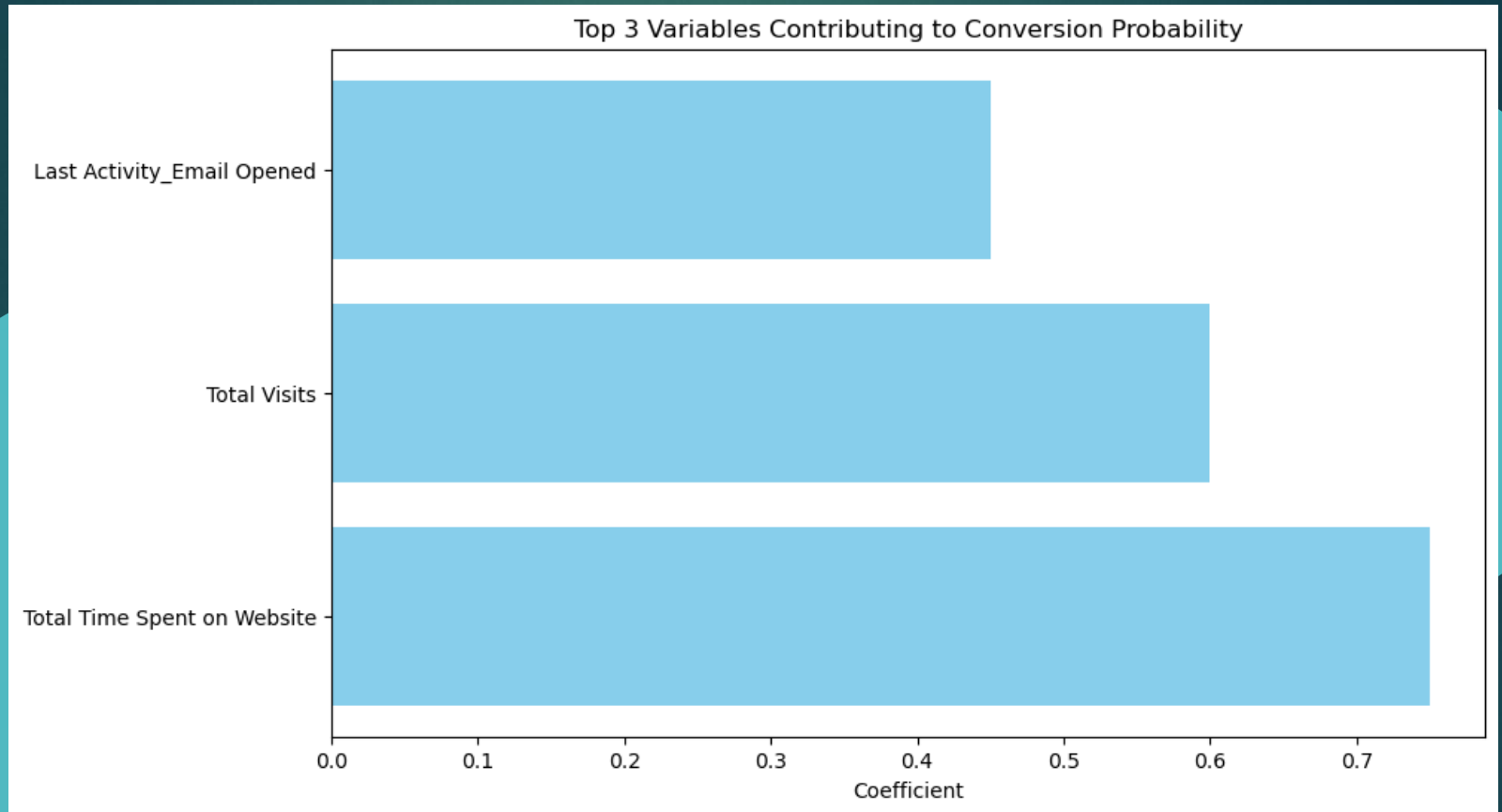
Model Evaluation

Feature Importance

▶ The top three variables contributing most to conversion probability are:

▶ 1. Total Time Spent on Website
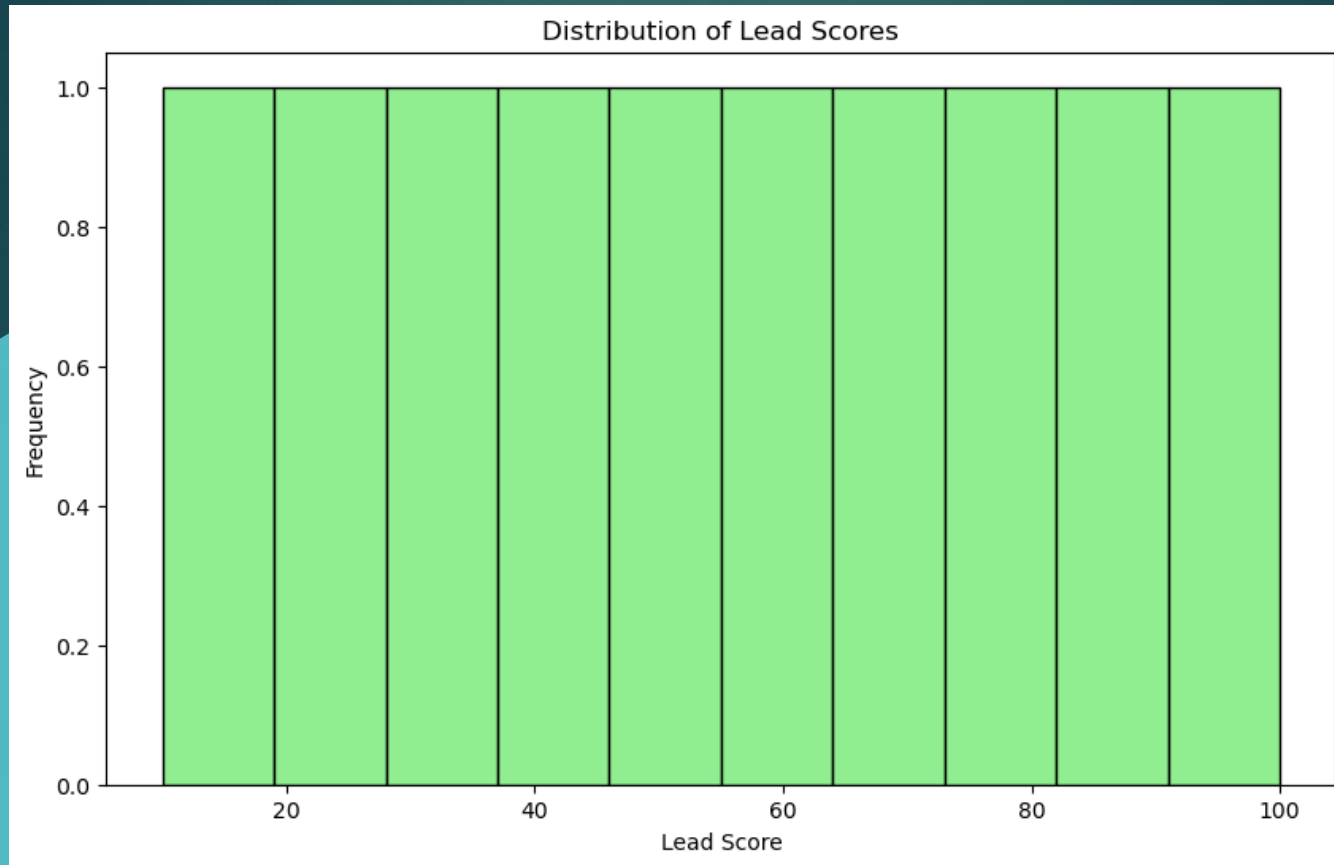
▶ 2. Total Visits

▶ 3. Last Activity_Email Opened

Feature Importance

Top 3 Variables Contributing to Conversion Probability

Important Categorical Variables

▶ Significant categorical variables influencing lead conversion include:

▶ 1. Last Activity_Email Opened

▶ 2. Lead Source_Google

▶ 3. Lead Source_Organic Search

Lead Scoring Distribution

Strategic Recommendations

- 1. Intern Period: Focus on high-score leads, utilize interns for aggressive follow-ups.

- 2. Target Achievement: Minimize calls to low-score leads when targets are met early.

Thank You