Lead Scoring case study

Predicting Lead Conversion for X Education

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Problem Overview

Problem statement

X Education currently has a lead conversion rate of 30% and needs to improve it significantly.

Objective

To increase the lead conversion rate to 80% by identifying "Hot Leads" who are most likely to become paying customers.

Importance

Improving lead conversion efficiency will maximize sales efforts and increase revenue for X Education.

Analysis approach

Data preprocessing → EDA → Feature engineering → Model Building → Hyperparameter tuning → Lead Scoring

Key Features and Model Performance

Key Features Contributing to Lead Conversion

1. **Lead Profile: Potential Lead**
   a. Importance: 1.417619
   b. Impact: Positive

2. **Total Time Spent on Website**
   a. Importance: 1.001547
   b. Impact: Positive

3. **Last Notable Activity: Email Opened**
   a. Importance: 0.011637
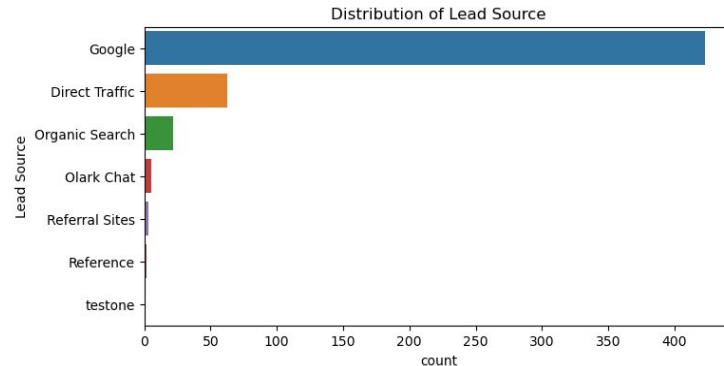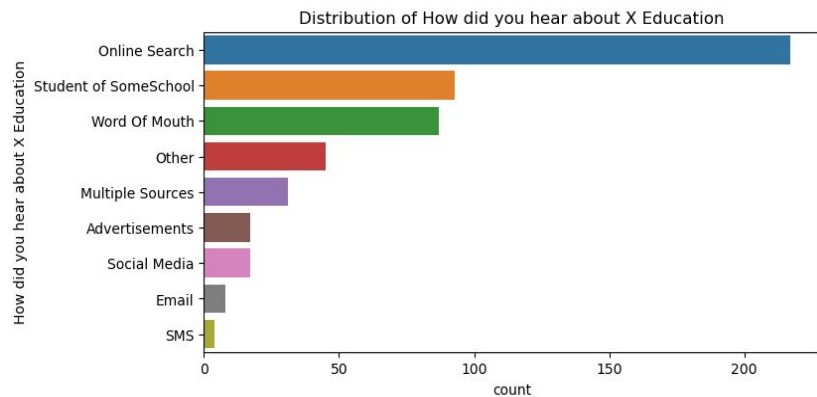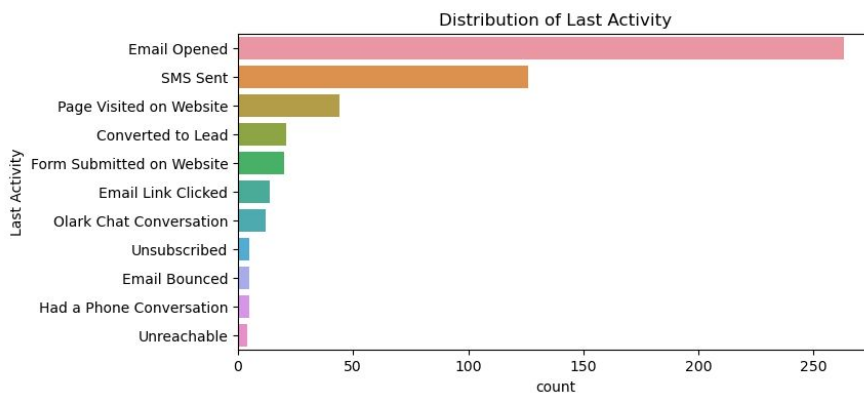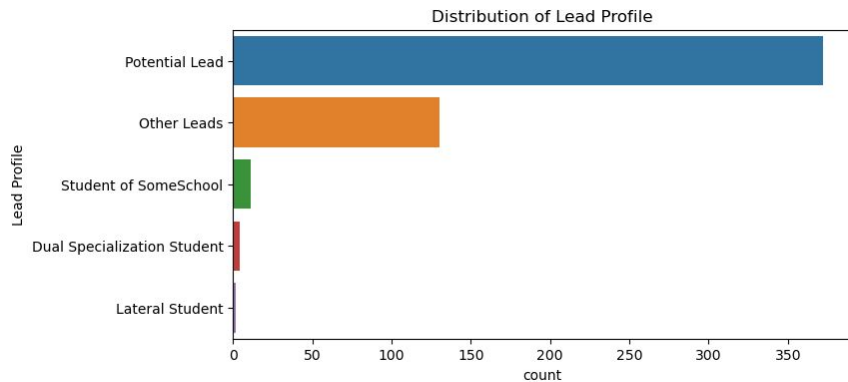   b. Impact: Positive

Model Performance

Accuracy: 75.96%
ROC-AUC: 0.83

Visualization of Results

Distribution of categorical features

Distribution of Lead Profile

Distribution of Last Activity

Distribution of How did you hear about X Education
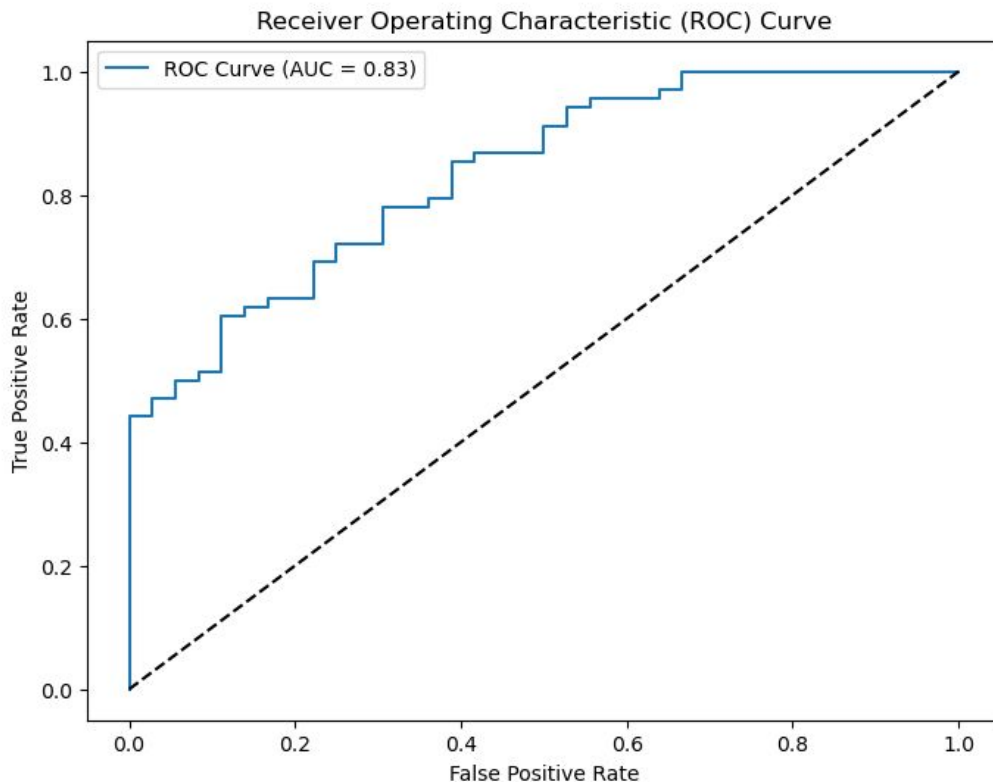
Distribution of Lead Source

Relationship between numerical features and the target variable

Receiver Operating Characteristic (ROC) Curve
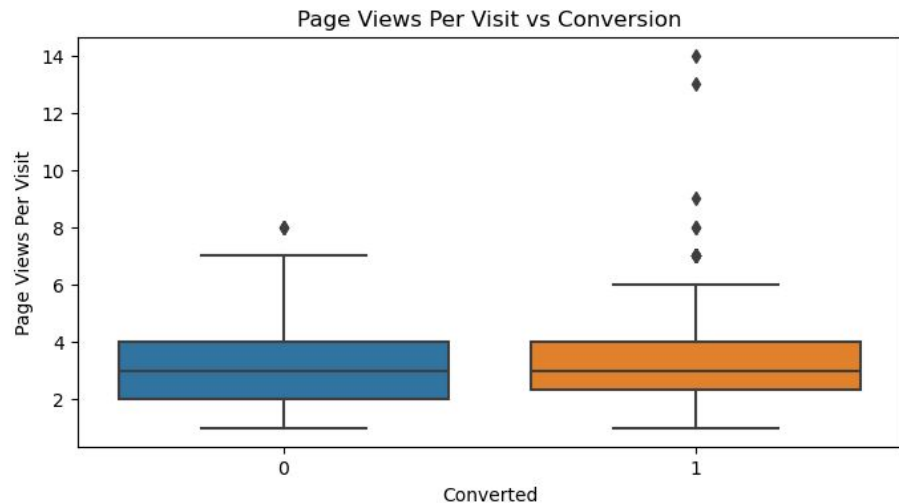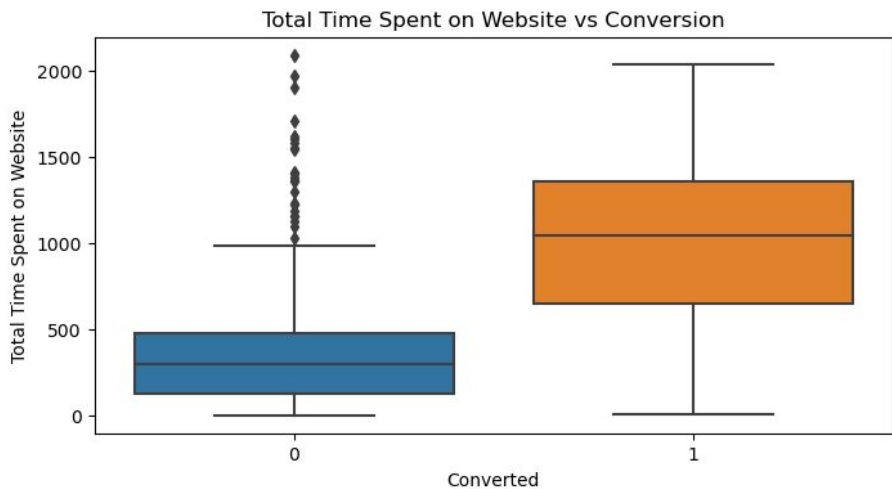
Receiver Operating Characteristic (ROC) Curve
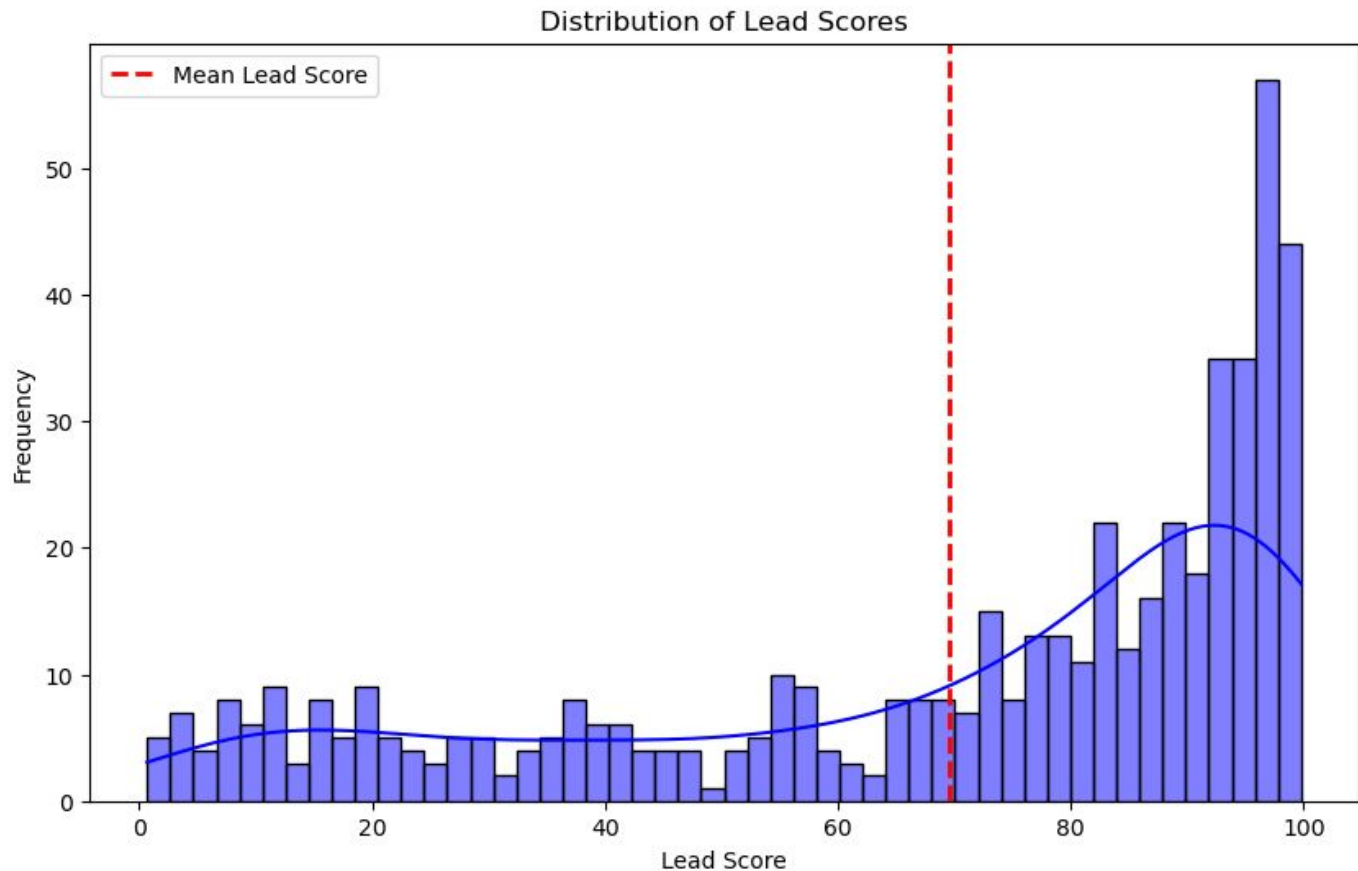
Examples of first few leads with their scores

	Lead Number	Lead Score
6	660673	97.251182
22	660471	85.973556
27	660424	96.784473
37	660267	86.694010
39	660236	77.661313

Distribution of Lead Score

Distribution of Lead Scores

Business recommendations

Key Insights:

- Identified top contributing variables influencing lead conversion.
- Assigned lead scores to prioritize high-potential leads.

1. **Aggressive Lead Conversion with Interns:**
    a. Use the model to identify high-probability leads.
    b. Segment leads by engagement level and assign interns for follow-up.
    c. Provide tailored communication scripts for interns.
    d. Monitor and adjust strategies based on effectiveness.

2. **Minimizing Unnecessary Phone Calls:**
    a. Focus on highest score leads when quarterly targets are met.
    b. Use automated email follow-ups for medium to low-score leads.
    c. Regularly review and refine the strategy based on performance and feedback.
    d. Adjust dynamically based on changing business needs.