



# Data StoryCraft

## Data Analytics Case Study

**Team Name:** Alpha

**Team Members:** Akash Tripathi(DOMS IITK), Ayush Goyal(DOMS IITK)

# Objective

- Analyze user behavior to uncover trends, patterns, and gaps in e-commerce sessions.
- Identify critical insights to highlight development opportunities for improving revenue conversion.

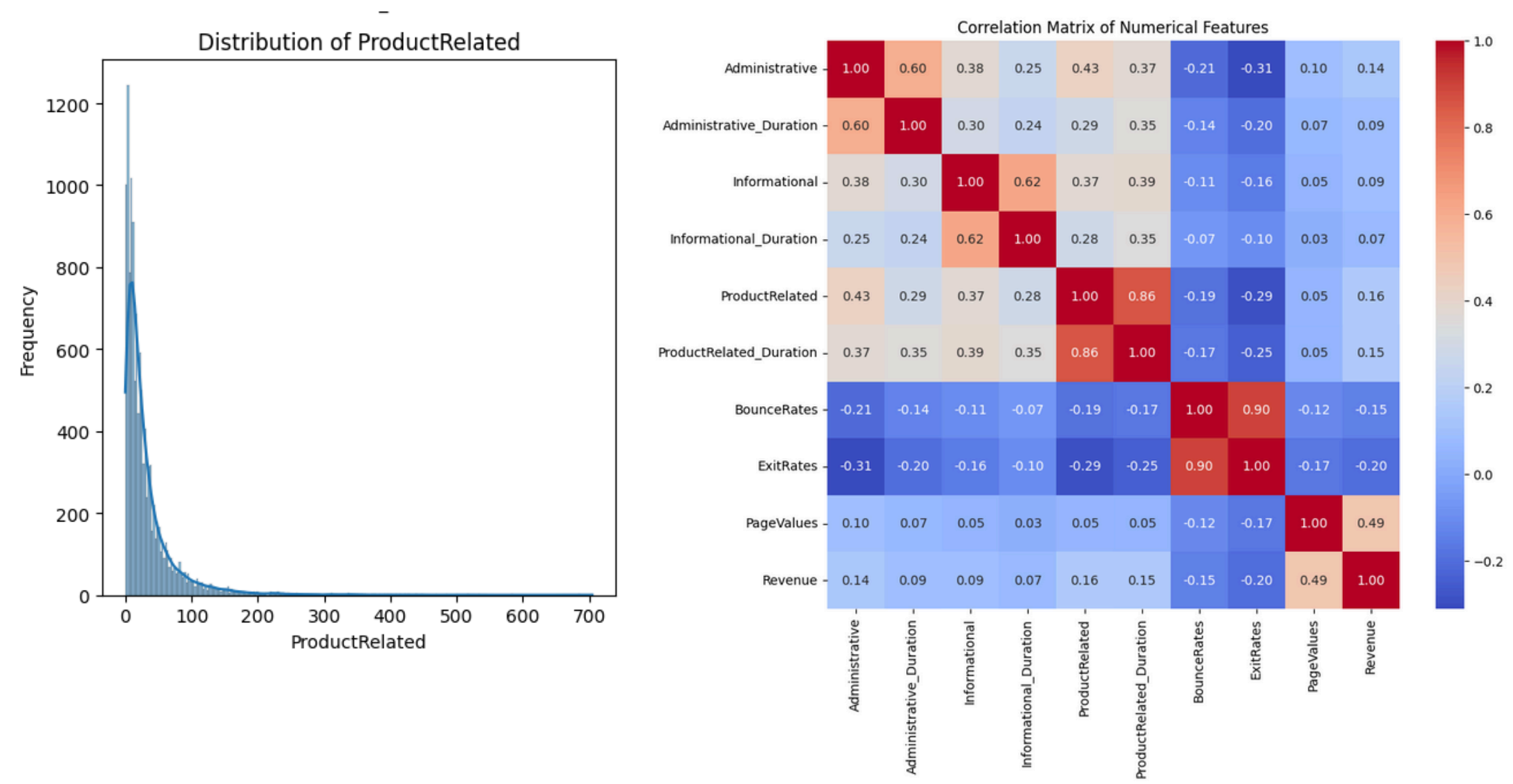
# Dataset Overview

- Numerical Features: 10 (e.g., Administrative Duration, Product Related Duration, Page Value)
- Categorical Features: 8 (e.g., Browser, Visitor Type, Month)
- Class Label: Revenue (1 = Purchase, 0 = No Purchase)

# Approach

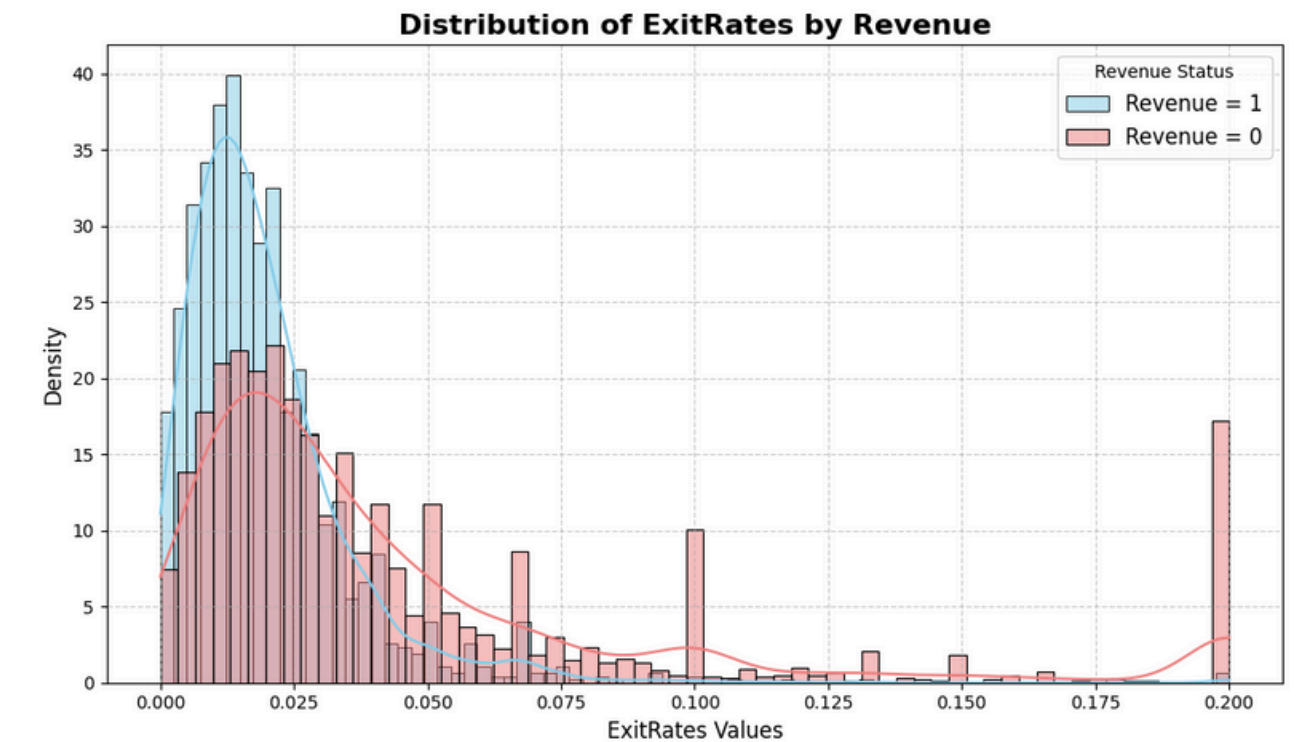
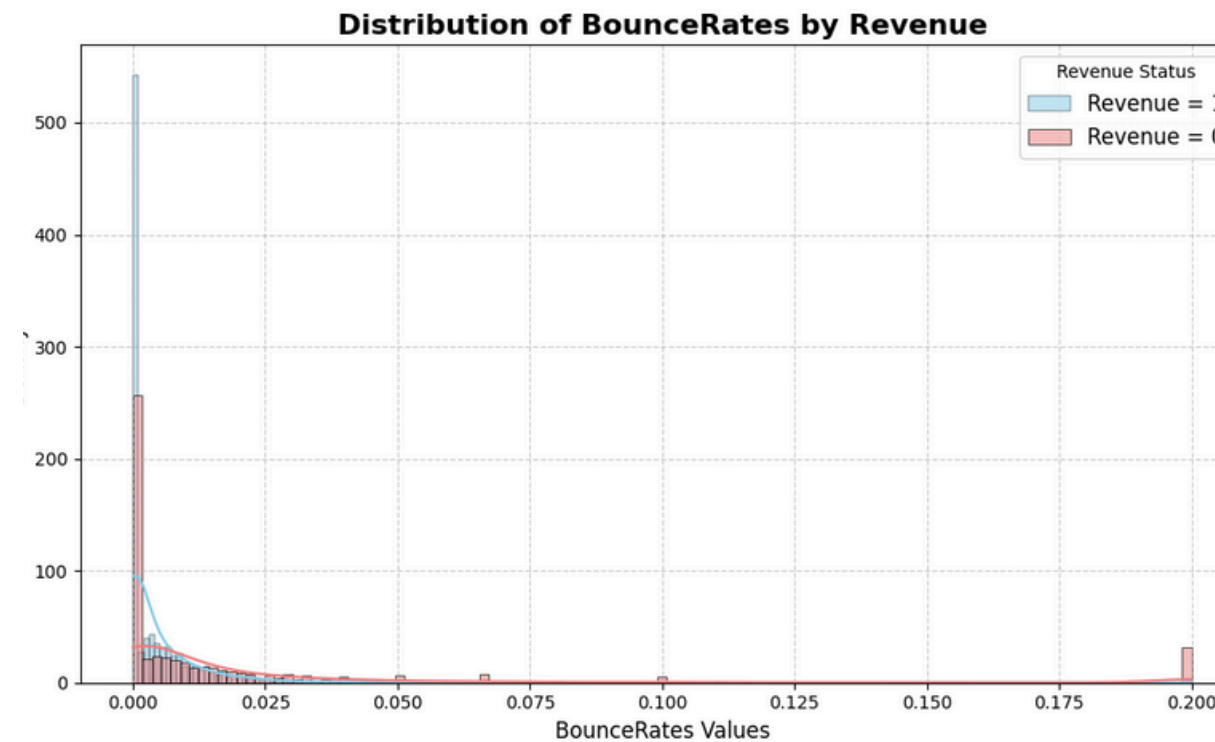
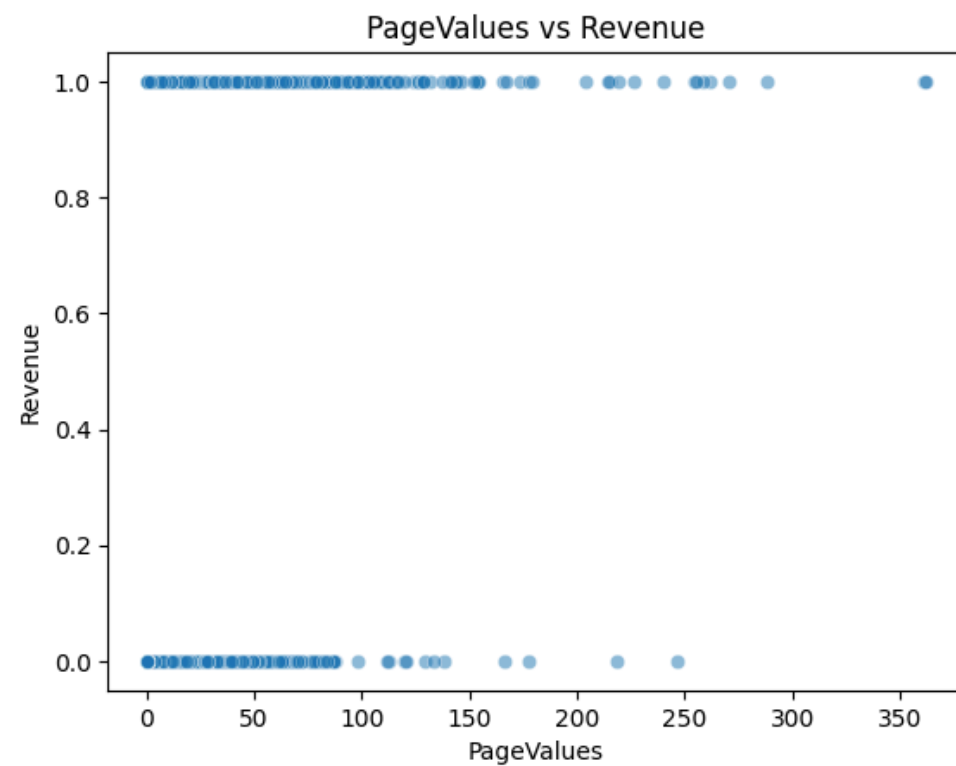
- Conduct exploratory data analysis to uncover trends.
- Focus on meaningful patterns impacting revenue.

# Trends



- High variability in ProductRelated\_Duration suggests distinct user behaviors (some spend considerable time, others very little).
- Bounce rates and exit rates have low medians, but their maximum values show potential issues in user retention.
- PageValues is strongly correlated with Revenue.
- BounceRates and ExitRates show a negative correlation with Revenue, suggesting that reducing these could positively influence conversions.

# Key Insights



## Actions

Sessions with high PageValues are strongly associated with conversions (Revenue = 1).

- Optimize high-value pages (product, checkout) to boost engagement.

Higher Bounce and Exit Rates correlate with non-converting sessions (Revenue = 0).

- Reduce bounce rates by improving landing pages.

Around 2/3 of transactions carried out by returning visitors but Percentage of conversion for returning visitors is half of percentage of new visitors conversion.

- Target returning visitors with personalized campaigns

