Netflix Dataset Analysis: Content Trends for Strategic Recommendations

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PROBLEM STATEMENT

- Netflix has become one of the most prominent global streaming platforms, continuously expanding its library with a mix of original productions and licensed content. However, with growing competition from platforms like Amazon Prime, Disney+, and regional OTT providers, Netflix must strategically analyze its content catalog to identify strengths, gaps, and opportunities. The specific problem to be addressed in this project is **'Content Trends Analysis for Strategic Recommendations**'. The aim is to uncover how Netflix's content distribution (Movies vs. TV Shows, genres, and country contributions) has evolved over the years. This will enable the identification of key genres, audience preferences, and strategic insights into global content expansion.

Project-Description

This project focuses on analyzing Netflix's dataset to uncover key patterns and trends in its content library. With streaming competition on the rise, understanding what types of content attract and retain viewers is crucial for strategic growth. By examining factors such as genre distribution, release year patterns, regional availability, and content type (movies vs. TV shows), the project provides actionable insights into audience preferences and platform strategy.

The analysis highlights emerging trends, identifies gaps in content categories, and explores correlations between attributes like release timing and popularity. These findings can be leveraged by Netflix to optimize content acquisition, production, and recommendation strategies, ultimately strengthening its competitive advantage in the global streaming market.

WHO ARE THE END USERS?

- **Content Strategists & Business Analysts** – to identify what type of content (genre, region, release year) performs best and guide strategic decisions.

- **Marketing Teams** – to understand audience preferences and design targeted campaigns.

- **Recommendation System Developers** – to improve personalization algorithms using insights from content patterns.

- **Content Creators & Producers** – to align future productions with trending genres and viewer demand.

- **Investors & Stakeholders** – to evaluate Netflix's growth strategies and potential investment directions.

- **Researchers & Students** – who want to study data-driven insights in media, entertainment, and consumer behavior.

Technology Used

- **Python**-Core programming language

- **Pandas & NumPy**-Data cleaning and preprocessing

- **Scikit-learn**-Machine learning (model training, regression, evaluation)

- **Matplotlib/Seaborn**-Data visualization and feature importance

- **Google Colab**-Cloud-based environment for running the project

- **File handling libraries**-openpyxi (for Excel) and built-in CSV handling

RESULTS 1

Step 1: Import Required Libraries

We'll start by importing all the necessary Python libraries for data manipulation, analysis, and visualization.

Libraries Used:

- **pandas**: For data manipulation and analysis
- **numpy**: For numerical operations
- **matplotlib & seaborn**: For static visualizations
- **plotly**: For interactive visualizations
- **warnings**: To suppress unnecessary warnings

```python
# Import essential libraries for data analysis and visualization
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px
import plotly.graph_objects as go
from plotly.subplots import make_subplots
import warnings
from datetime import datetime

# Configure display settings
warnings.filterwarnings('ignore')
pd.set_option('display.max_columns', None)
pd.set_option('display.max_rows', 100)
pd.set_option('display.width', None)

# Set visualization styles
sns.set_style('whitegrid')
plt.rcParams['figure.figsize'] = (12, 6)
plt.rcParams['font.size'] = 10

print("✅ All libraries imported successfully!")
print(f"📅 Analysis Date: {datetime.now().strftime('%B %d, %Y')}")
```
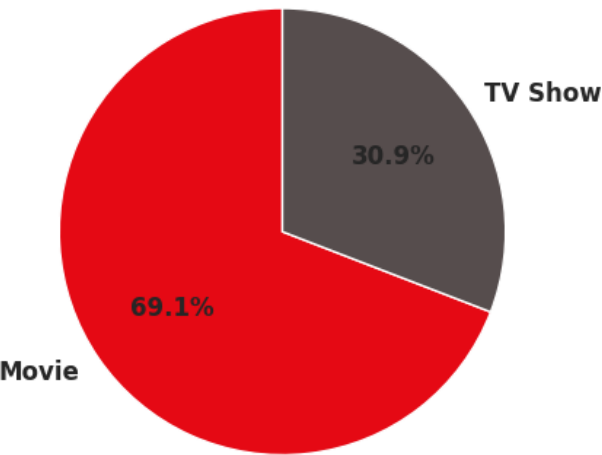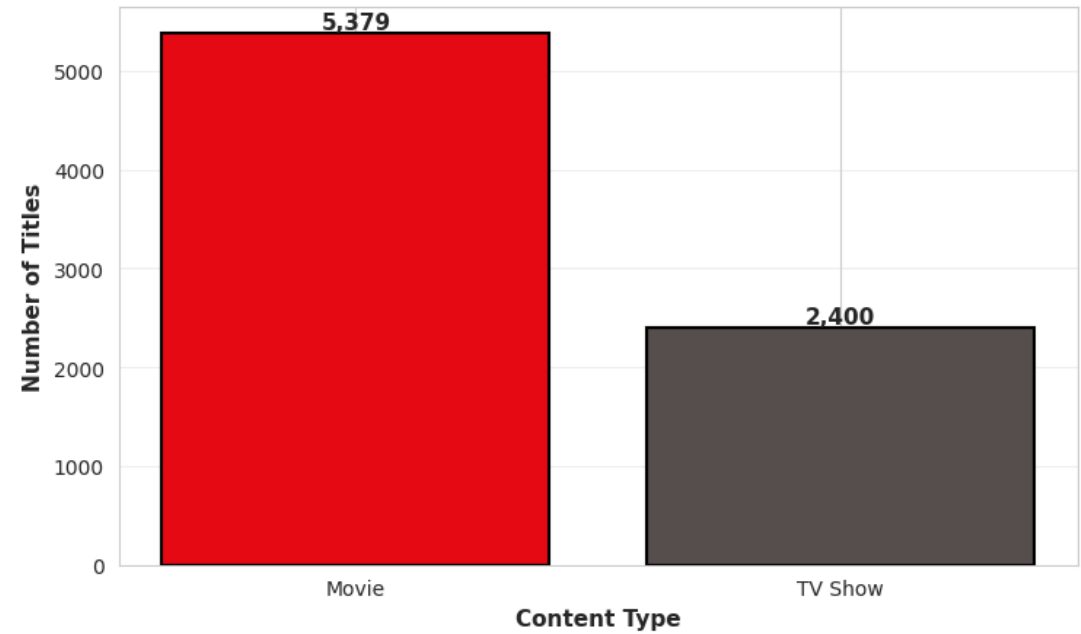
Python

RESULTS2

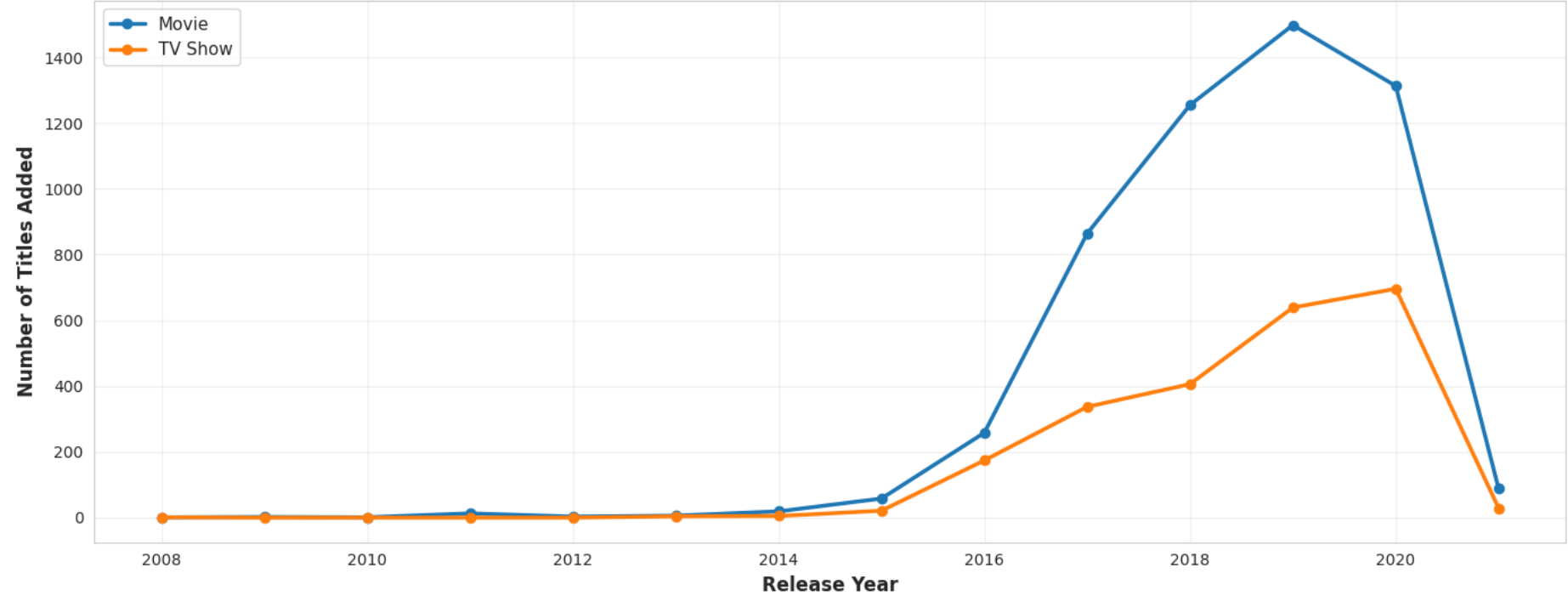**Content Distribution: Movies vs TV Shows**

Content Count Comparison

RESULTS3

Content Addition Trends Over Years: Movies vs TV Shows

GitHub repository

https://github.com/mouli4401/Major_Project_VOIS_AICTE_Oct_2025_MouliDuggirala

Getting started with Basics of Python Certificate

Data Visualization Certificate

Thank you