# Technology Review

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# Outline

- Project Overview
- Use Cases
- Visualization Tools
- Tech Comparison
- Python Libraries

# Project Overview

With so many streaming platforms available, it can be overwhelming to browse every catalog to find a movie that you'll like.

**Our goal is to provide a personalized streaming experience based on the user's preferences with a movie recommendation tool.**

Data Sources:

- Netflix Dataset: Training_set.rar, movie_titles.txt (https://www.kaggle.com/netflix-inc/netflix-prize-data)
- IMDB Dataset: title.basics.tsv.gz, title.ratings.tsv.gz (https://www.imdb.com/interfaces/)

# Use Case 1

**The user wants to watch a movie similar to a movie of their choice.**

User: User inputs his/her liked movie.

Tool: Based on the user's liked movie, a list of recommended movies will be displayed.

| Recommended movies based on *Lilo and Stitch* |
| --- |
| Ice Age |
| The Emperor's New Groove |
| A Bug's Life |
| Monsters |
| Atlantis: The Lost Empire |
| Finding Nemo (Widescreen) |
| The Lion King: Special Edition |
| Shrek (Full-screen) |
| Aladdin: Platinum Edition |
| Brother Bear (Theatrical Widescreen Version) |

# Use Case 2

**The user wants to see the top 10 movies of a particular year.**

User: User inputs a particular year.

Tool: A list of the top 10 most recommended movies will be displayed.

```
Input the year: 2019
```

| | List of top 10 movies |
|---|---|
| 0 | Pain & Glory |
| 1 | The Irishman |
| 2 | Once Upon a Time…in Hollywood |
| 3 | Marriage Story |
| 4 | Little Women |
| 5 | Parasite |
| 6 | Knives Out |
| 7 | Dolemite Is My Name |
| 8 | A Beautiful Day in the Neighborhood |
| 9 | Hustlers |

# Use Case 3

**The user wants to see the top 10 movies from a particular genre.**

User: User inputs the genre from a drop-down menu.

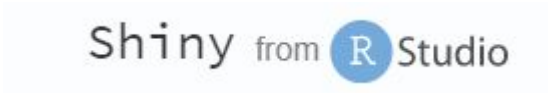
Tool: A list of the top 10 most recommended movies from that genre will be

```
Input the genre: Action & Adventure
```

| | List of top 10 movies |
|---|---|
| 0 | Black Panther |
| 1 | Avengers: Endgame |
| 2 | Mission: Impossible - Fallout (2018) |
| 3 | Spider-Man: Into the Spider-Verse |
| 4 | Mad Max: Fury Road |
| 5 | Wonder Woman |
| 6 | Dunkirk (2017) |
| 7 | Coco |
| 8 | Star Wars: The Last Jedi |
| 9 | Thor: Ragnarok |

# Visualization Tools

- Bokeh (https://docs.bokeh.org/en/latest/index.html) : Interactive Visualizations
- Shiny (https://shiny.rstudio.com/) : Interactive Visualizations
- Dash (http://dash.plotly.com/) : Interactive Visualizations


# Technical Comparison

## Bokeh

Pros:

- Compatible with Jupyter notebooks
- Wider range of interactions

Cons:

- No proper documentation and well-supported platforms
- Slower for big datasets
- Interaction inconsistency

## Dash

Pros:

- Multiple tutorials & extensive documentation
- Python implementation
- Plotly compatible

Cons:

- No experience with it beyond testing
- Limited customization

## Shiny

Pros:

- Free hosting on shinyapps.io
- More mature than dash
- No knowledge of HTML/CSS/JavaScript required

Cons:

- Could have compatibility issues with Python

# Python Libraries Used

- Pandas (https://pandas.pydata.org/)
- Scikit-learn (https://scikit-learn.org/)
- Numpy (https://numpy.org/)
- Scipy (https://docs.scipy.org/)

# THANK YOU!