

CAPSTONE TITLE SLIDE

SOMETHING

**AUDIENCES WANT
MORE DIVERSITY**

A close-up portrait of a young woman with long, wavy brown hair, smiling warmly at the camera. She is wearing a white t-shirt with a colorful graphic print. The background is a solid blue.

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Data Scientist

BA Communication
MFA Screenwriting

Former Writer/Producer



AGENDA

- 1.** Business Understanding:
Why content diversity?
- 2.** Data Overview:
Netflix Competition Data
- 3.** Modeling:
PVR, V2V, U2U, Trending
- 4.** Diversity Analysis:
Recommender System Results
- 5.** Looking Ahead:
Modeling Timeline

**BUSINESS
PROBLEM**

**AUDIENCES DON'T
CARE ABOUT
ACCURATE
PREDICTIONS**



THE
DATA

NETFLIX

1M RATINGS FROM 290K USERS

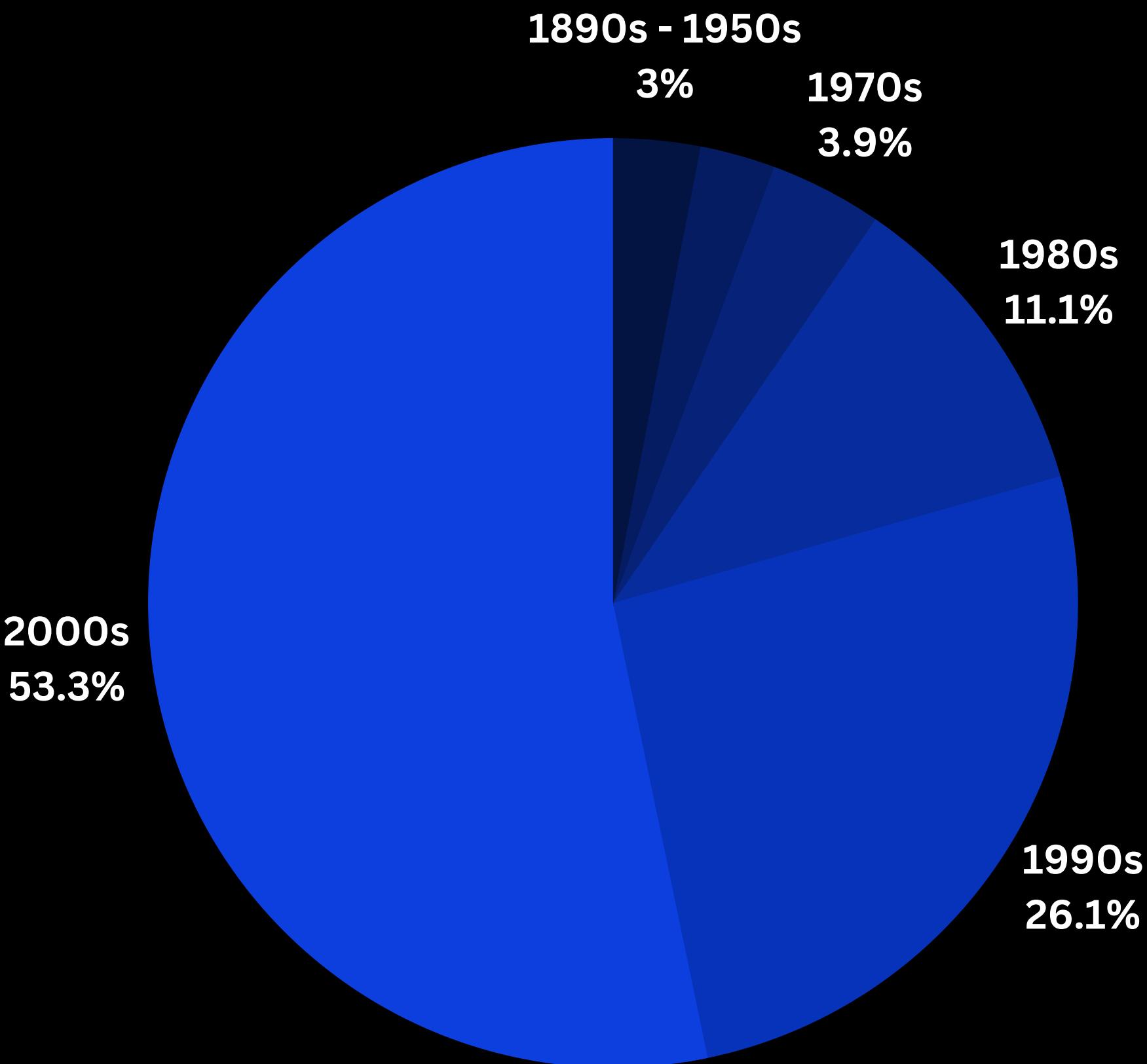


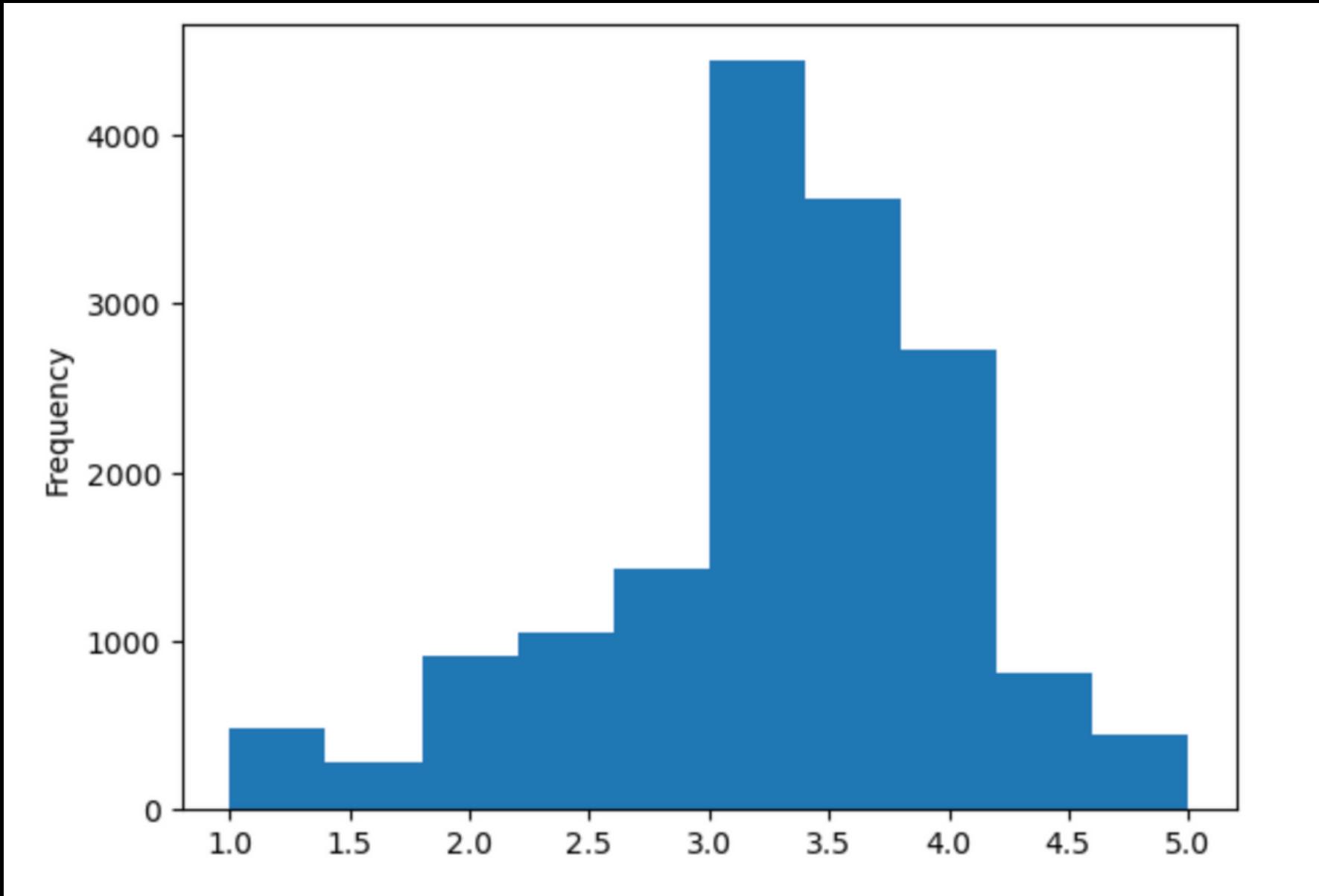
- 2006 **Netflix** Competition Data
- Sampled from 100M Observations
- Oct 1999 - Dec 2005
- 17,770 Movies, Shorts, and Shows
 - Year 1898 to 2004

Diversity in the Data

VIDEO BY DECADE

Vast majority released
from 2000 - 2005

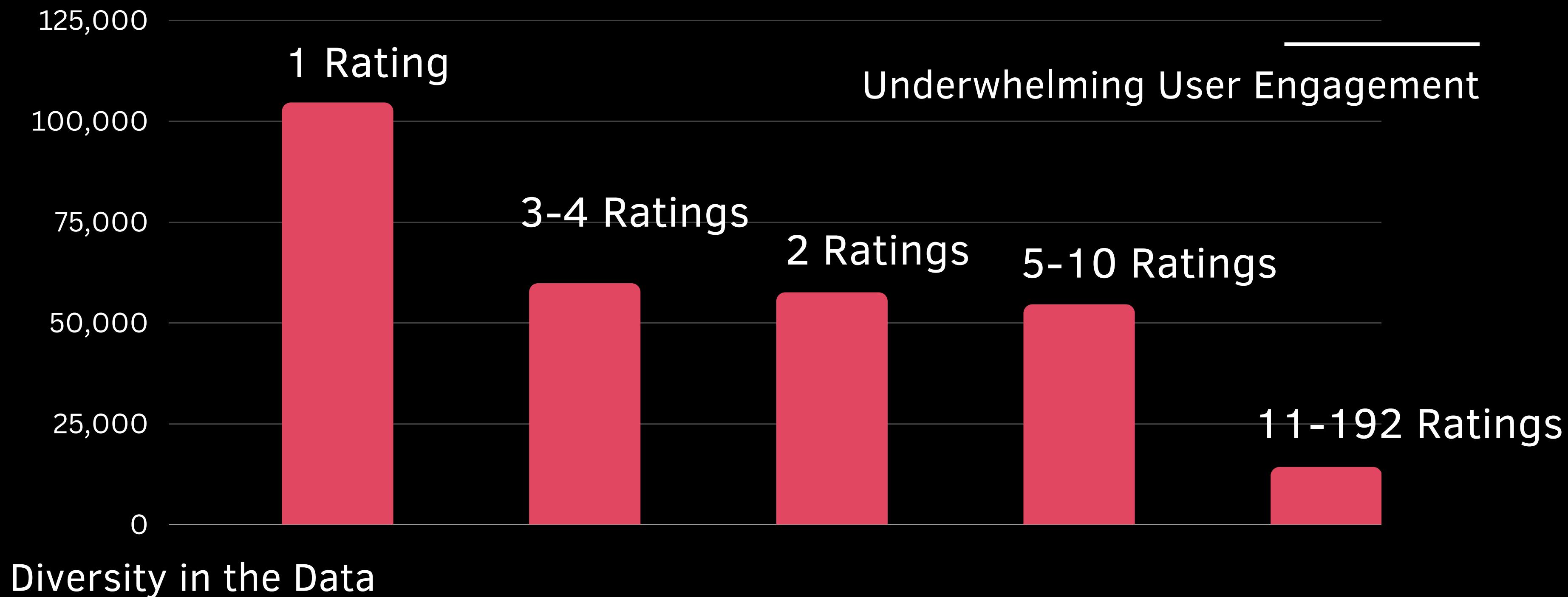




Diversity in the Data

AVERAGE RATING

Average Rating = 3.3



Diversity in the Data

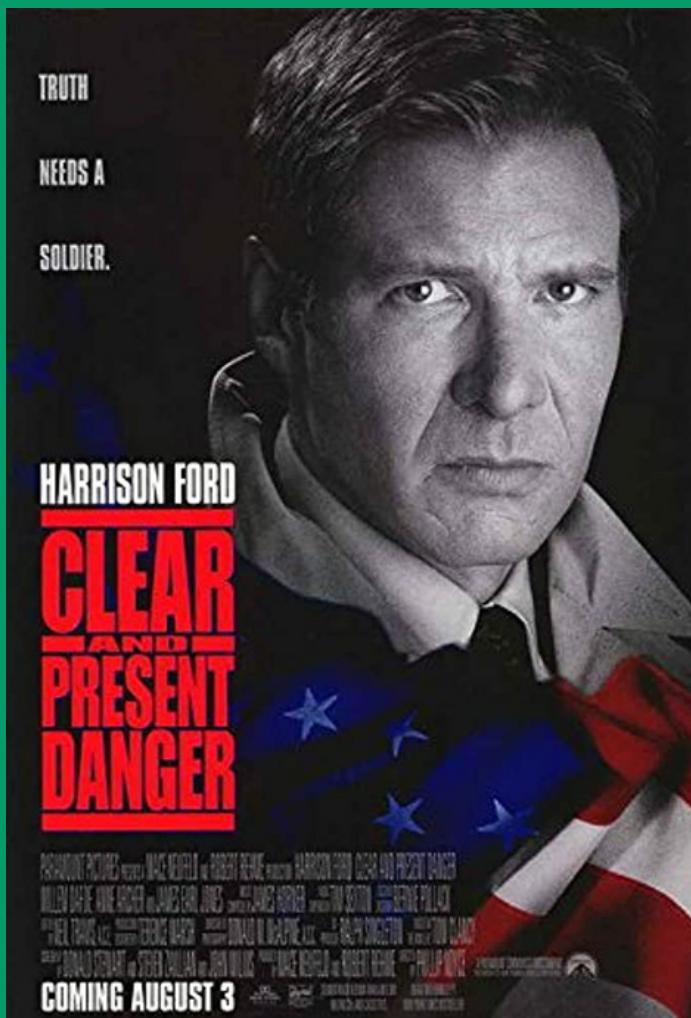
USER ENGAGEMENT

Diversity in the Data

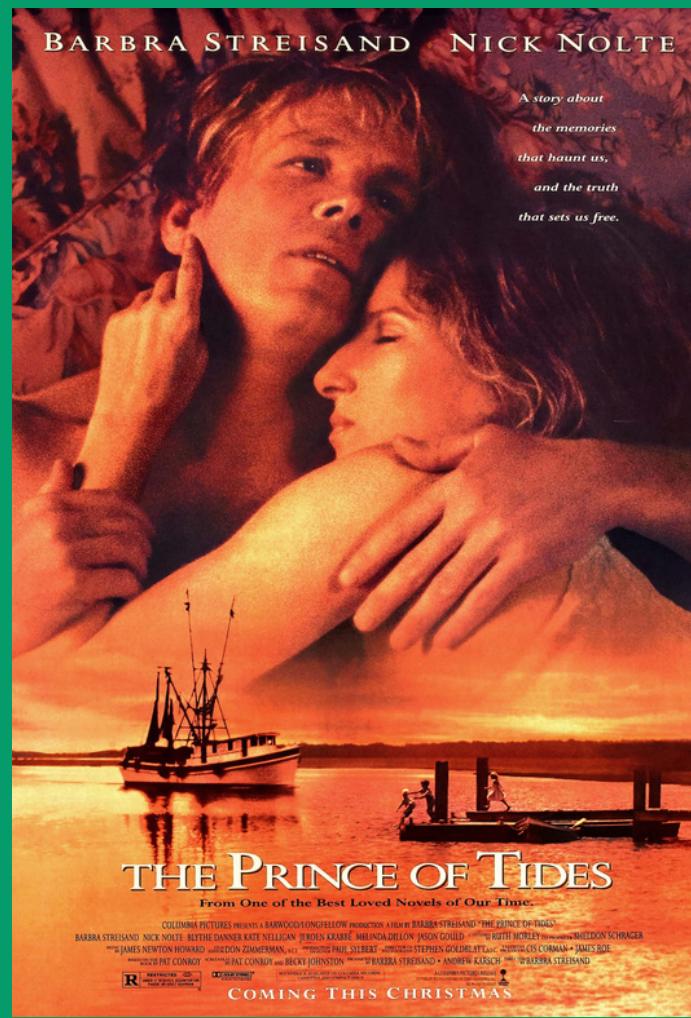
KEY DEMOGRAPHIC PRESENTATION

Minority Top Billed Cast, Director, or Writer

1994



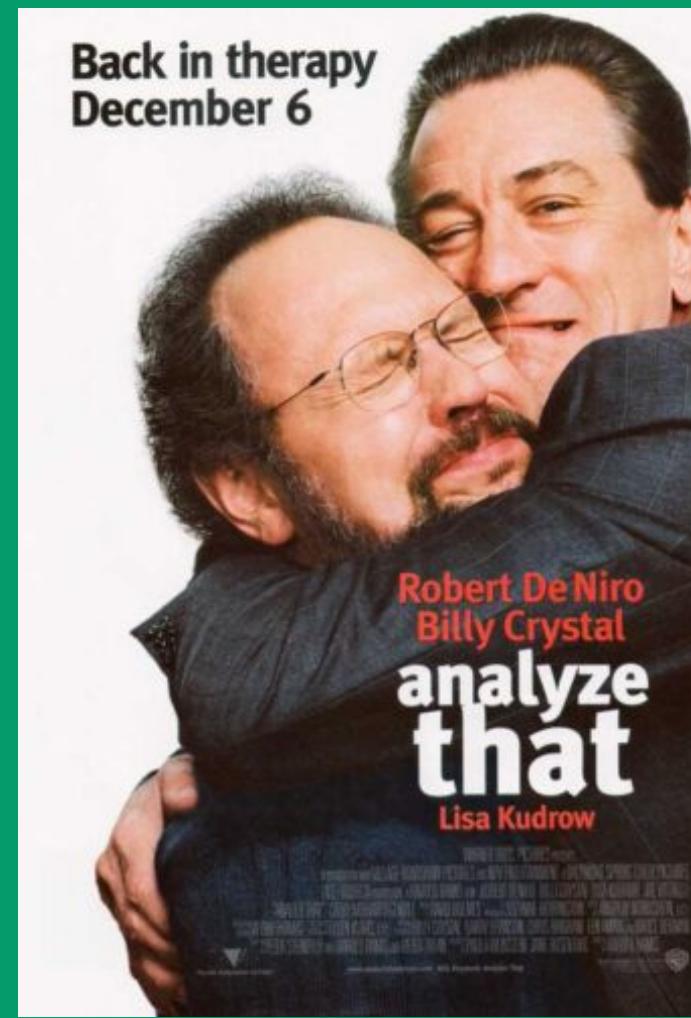
1991



1991



2002



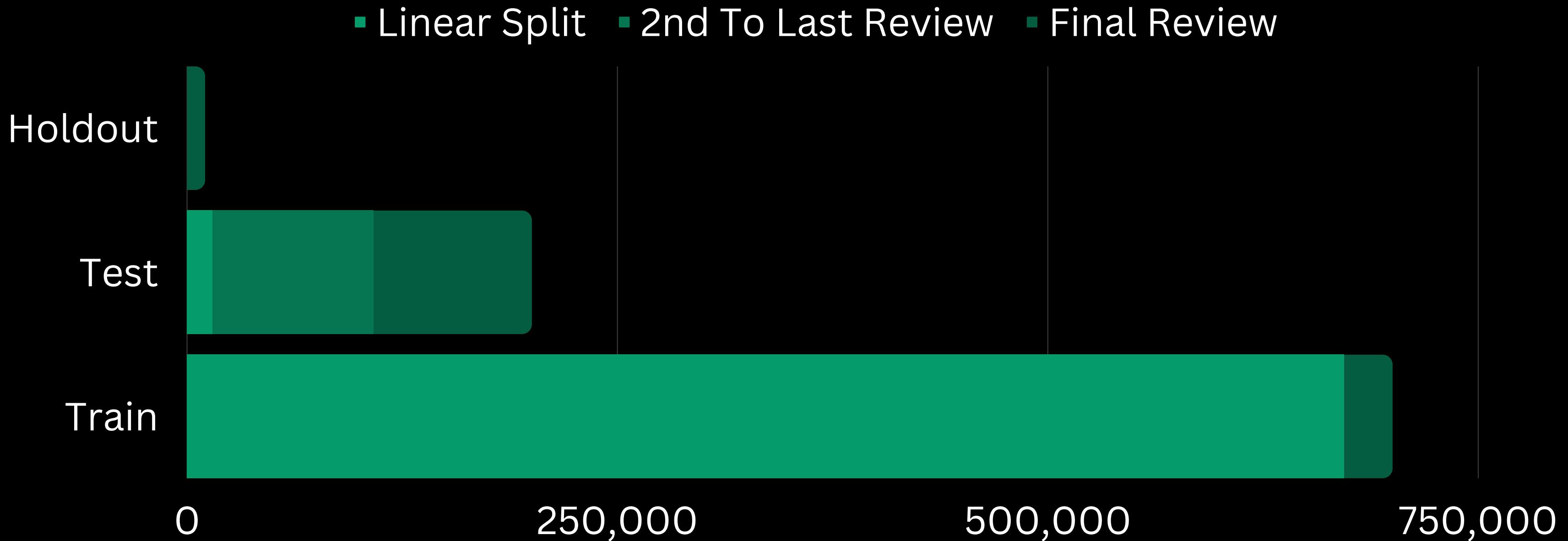
USER PROFILE

Customer #2407458
First Review: Nov 5th, 2005
Avg Rating: 3.25

MODELING PROCESS



TRAIN-TEST SPLIT



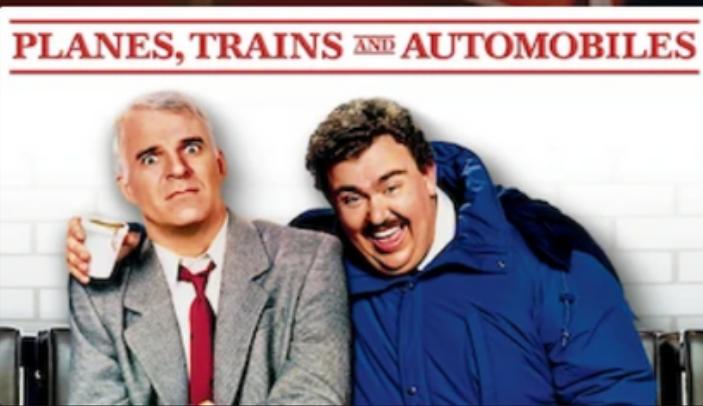
THE MODELS

- Personalized Video Ranker
- Top Video Ranker
- Trending Now
- Video-To-Video
- User-To-User

NETFLIX

Home Series Films New & Popular My List

My List



Continue Watching for Robert



Series

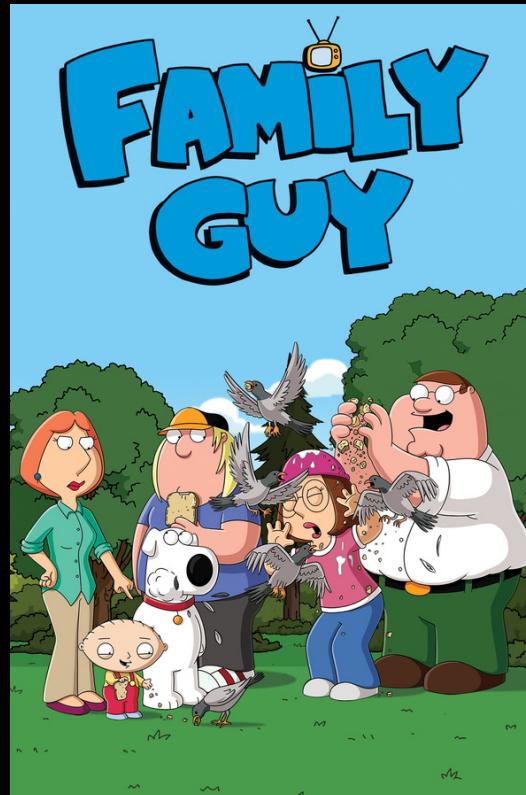
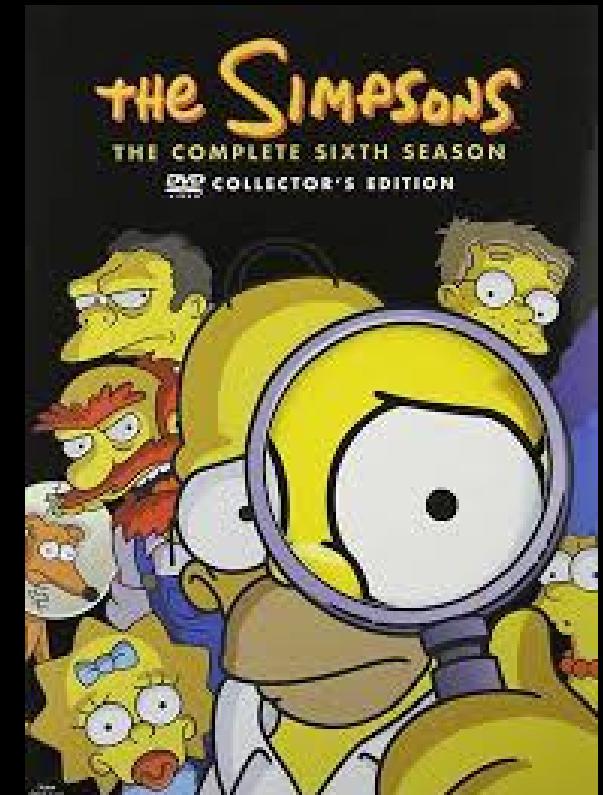
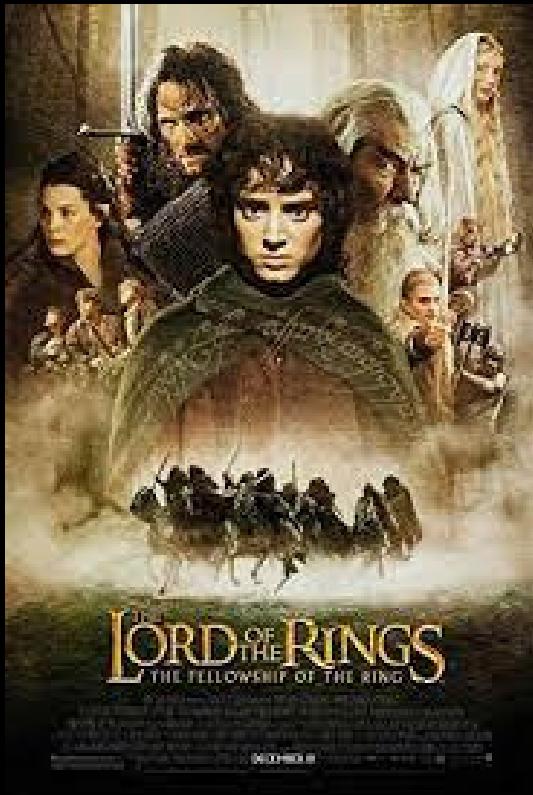


DIVERSITY ANALYSIS



BIAS BASELINE

ERROR = 0.76



Prediction Similarity:

99.5%

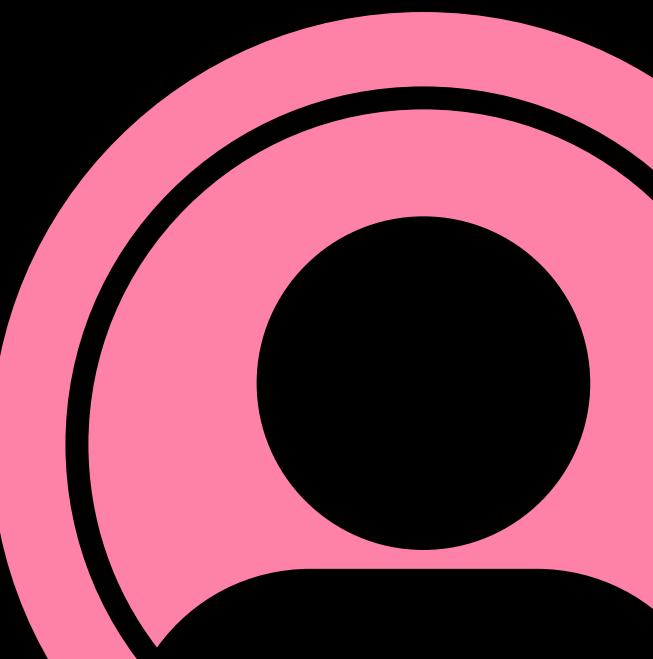
99.7%

99.5%

99.9%

99.4%

Customer #2407458



PERSONALIZED

ERROR = 0.76

Customer #2407458



VIDEO TO VIDEO

mae = .87 and .1
movies tbd

RESULTS

intentional

**NEXT
STEPS**

**INTENTIONAL
DIVERSITY**

**ANY
QUESTIONS?**

SOURCES

Empathize | Define | Ideate | Prototype | Test

The Purpose

Designing a world that will sustain future generations