

# NETFLIX

**“Optimizing Netflix with Data Analytics”**

- A 24 hour deep dive by Arunesh Kumar Lal



# My 24-Hour Research & Execution

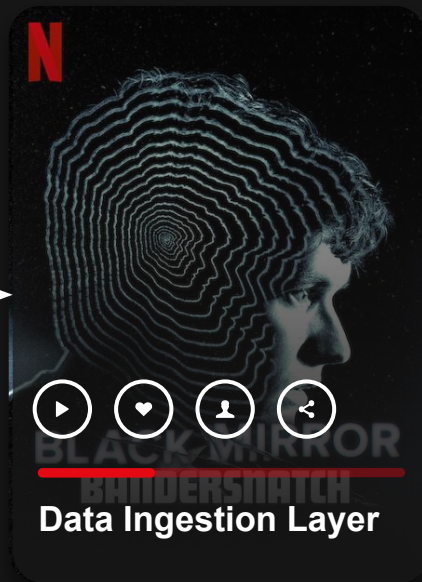
- Discovered Netflix's need for an Analytics Engineer.
- Spent 24 hours analyzing Netflix's subscription & user base data.
- Developed two interactive data dashboards in Power BI.
- Designed an 8-stage Netflix Data Pipeline for live deployment.
- Compiled findings into actionable business recommendations.



# Data Phase I



- User Activity Logs
- Subscription & Billing Data
- Content Performance
- Marketing & Customer Support Data
- External APIs (social media mentions, news, competitor data)

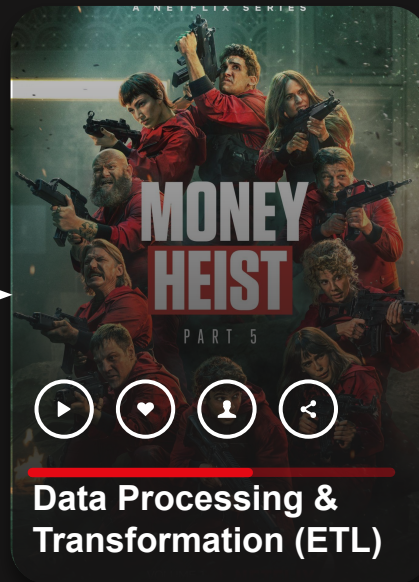


## Streaming (Real-time Analytics)

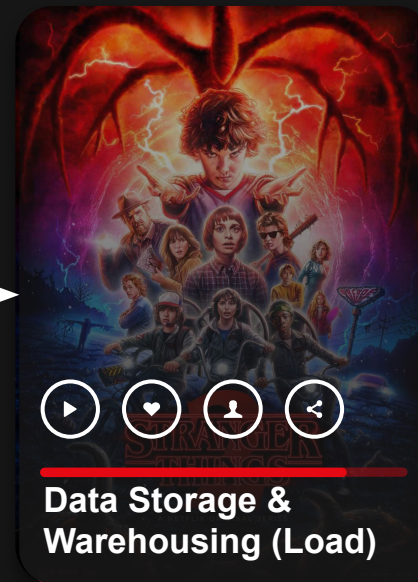
- Apache Kafka / Kinesis – Captures real-time user interactions.
- Flink / Spark Streaming – Processes data as it arrives.

## Batch Processing (Historical Data)

- AWS S3 / Google Cloud Storage – Stores raw data.
- Airflow / Prefect – Schedules batch data collection.




- Apache Spark / Databricks – Processes large datasets efficiently.
- dbt (Data Build Tool) – Applies data modeling & transformations.
- SQL-based Transformations – Cleans, normalizes, and aggregates data.



Cloud Data Warehouses for analytical processing:

- Amazon Redshift
- Databricks Delta Lake (for real-time & batch data)


# Data Phase II



Netflix Mindhunter poster featuring Jon Hamm and other cast members. Below the poster are four circular icons: a play button, a heart, a person, and a share icon. A red progress bar is partially filled.

**Data Modeling & Business Intelligence**


- **Star & Snowflake Schema** for analytics-ready data.
- **KPI Metrics:** Monthly revenue, watch time, churn rate, popular genres.
- **BI Tools:** Power BI, Tableau, Looker for data visualization.



Netflix The Great Hack poster featuring a person's silhouette in front of a data visualization. Below the poster are four circular icons: a play button, a heart, a person, and a share icon. A red progress bar is partially filled.

**Machine Learning & Predictive Analytics**

- **User Segmentation & Recommendation Models** using MLflow & TensorFlow.
- **Churn Prediction & Anomaly Detection** with Scikit-Learn & PySpark ML.



Netflix The Gray Man poster featuring Ryan Reynolds and Chris Evans. Below the poster are four circular icons: a play button, a heart, a person, and a share icon. A red progress bar is partially filled.

**Live Deployment**

- **Deploy ML models, real-time analytics, & dashboards**
- **CI/CD, MLOps** (Kubeflow, Airflow, Docker, AWS Lambda)



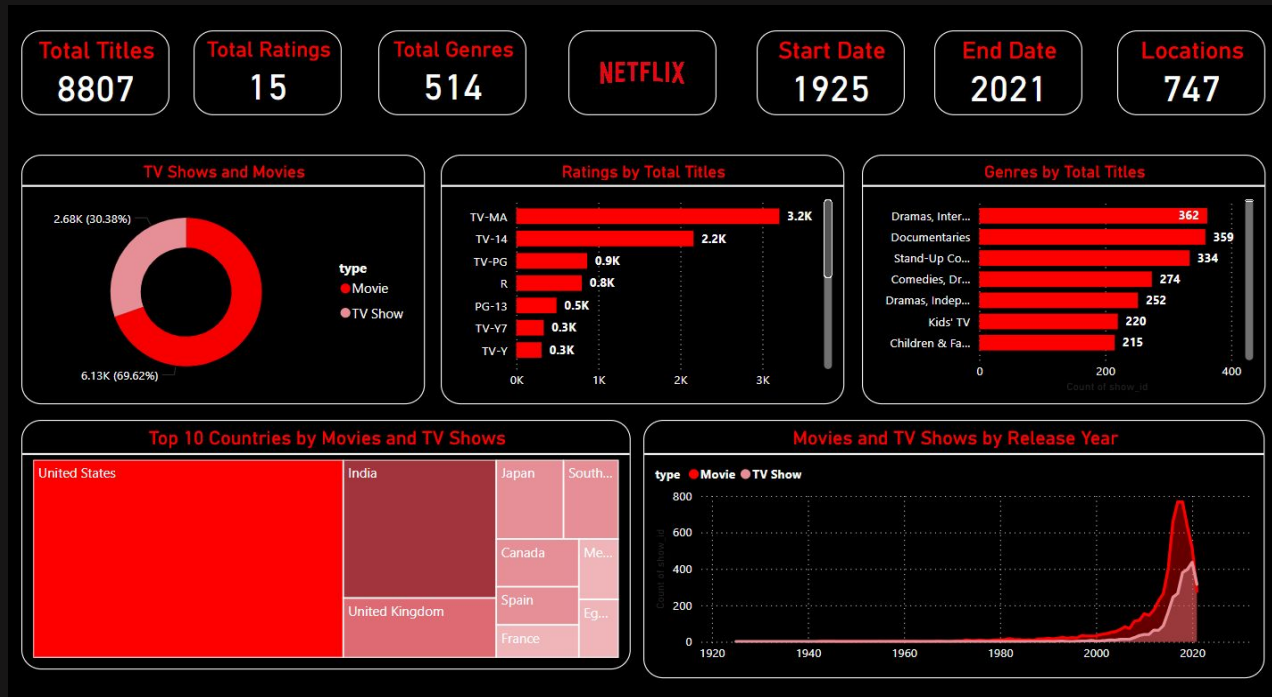
Netflix House of Cards poster featuring Kevin Spacey. Below the poster are four circular icons: a play button, a heart, a person, and a share icon. A red progress bar is partially filled.

**Stakeholder Reporting & Feedback**

- **Present insights, receive feedback & optimize models**
- **Executive Dashboards, Reports, A/B Testing**



# Content Dashboard



## 🕒 TOP RATINGS BY TITLES

TV-MA 3.2 K Titles

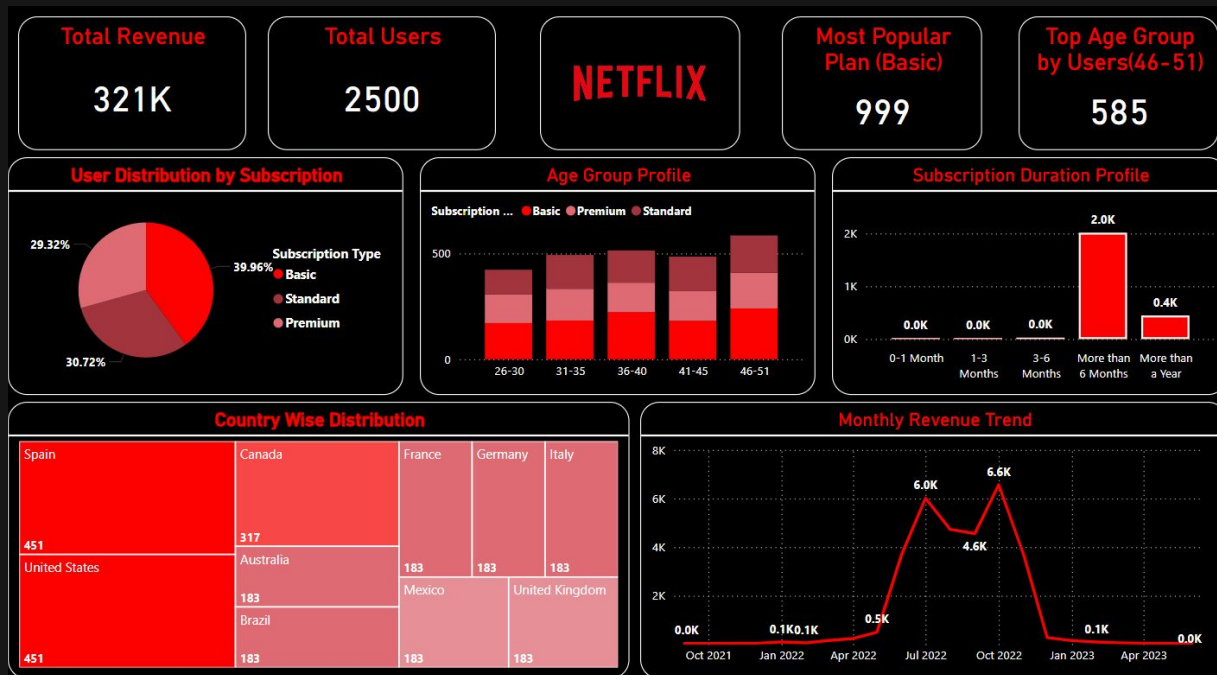
From total of 8.8 K

## 📊 TOP GENRES BY CONTENT

Drama, Documentaries, Stand-Up Comedy

from 1055 Titles

# Subscription & Revenue Dashboard



🕒 **Total Revenue**

\$ 321 K

In 21 months (2500 users)

📊 **Most Popular Plan**

Basic \$10

from 999 Users

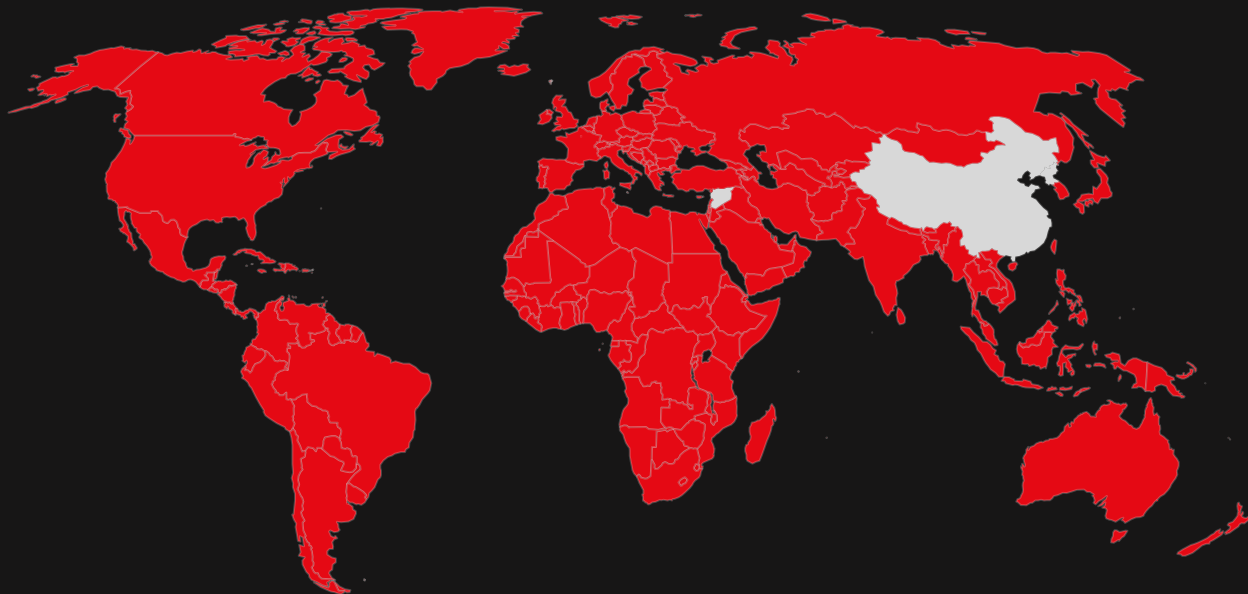
# User Base Statistics

Q3 2024 Report: India VS USA

	Mobile	Basic	Standard	Premium
	Only India	India   USA	India   USA	India   USA
Price	\$2.40	\$5.75    \$7.99	\$8.05    \$17.99	\$11.50    \$17.99
Video Quality	Good	Good	Better	Best
Resolution	480p	720p	1080p	4K HDR
Number of Devices	1	1	2	4
Total Subscribers	12 Million	66.7 Million		
Total Revenue	\$345 Million	\$14 Billion		

# Key Business Insights & Recommendations

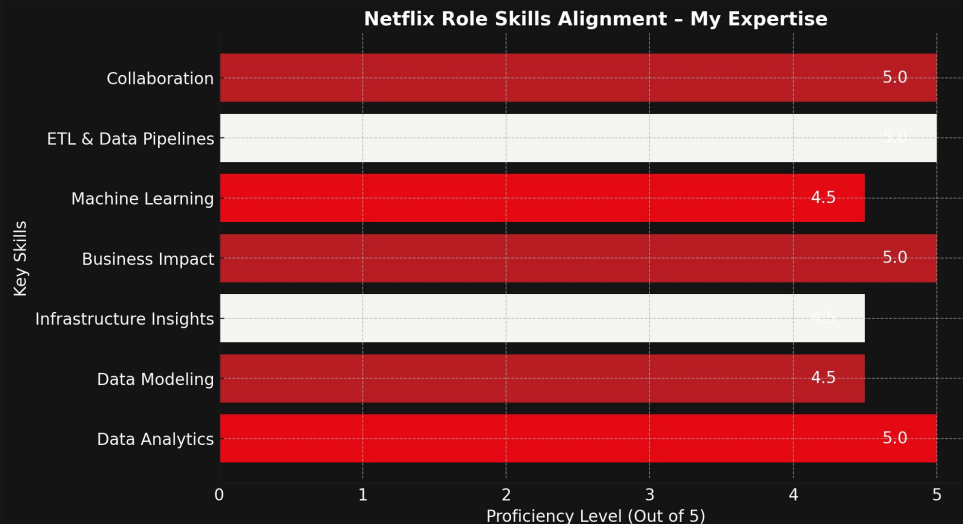
- Focus investment on **high-retention content genres**.
- Optimize pricing based on **regional revenue trends**.
- Enhance **personalized recommendations** to boost engagement.
- Use **real-time analytics** to **adjust marketing & content strategies**.





# My STATS

I analyzed Netflix's **Analytics & Data Visualization Engineer** role, mapping my skills to their needs. With expertise in **SQL, Power BI, ML, and AWS**, I build **scalable pipelines, predictive models, and insightful dashboards** to optimize **cost & infrastructure efficiency**.



## 🕒 Highest Qualification

MSc. In Computer Science(Major:Data Science)

BOSTON  
UNIVERSITY

## 🕒 TOP Skills

Data Analytics,Visualization,Business Intelligence

1.5 years Experience

# Sources

## Data

- User Base Data
- Content Data

## Sound Credit

- Netflix Animation Sound

## Research

- ISPs around Globe for great Viewing Experience
- Data Driven UI-UX Netflix
- Cloud Pivot helps Revenue Boom
- Day in life of Analytics Engineer
- Data And Netflix
- Netflix on AWS

# THANKS

Arunesh Kumar Lal | Analytics | Data Visualization Engineer

Contact: [aklal@bu.edu](mailto:aklal@bu.edu)

LinkedIn: [Arunesh Lal](#)

Github: [AruneshDev](#)