TECHNISCHE UNIVERSITÄT BERLIN

Weather's Cinematic Influence: Analyzing the Genre Preferences

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Imagine !

Close your eyes and imagine

Presentation Plan

- **Introduction**
- **Motivation**
- **Research Question**
- **Definitions**
- **Data Collection**
- **Methodology**
- **Expected Outcomes**
- **Scope and Limitations**
- **Challenges and Risks**
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Introduction

Background:

- **Weather's impact on human behavior is well-documented in psychology.**

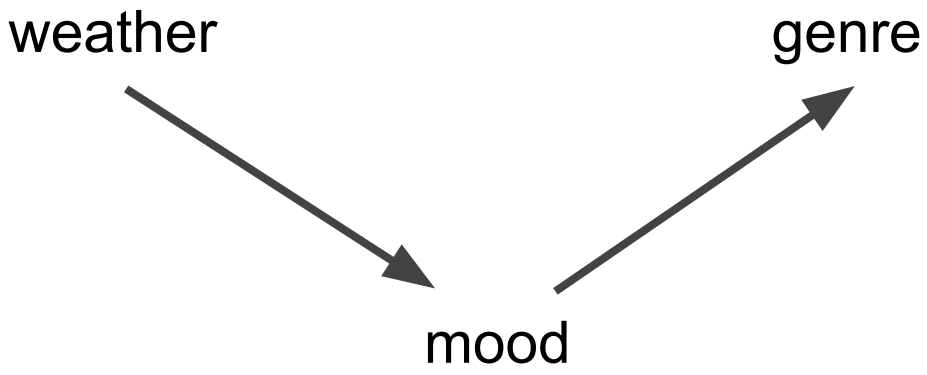
- **Some research papers have discussed the relationship between mood and genre preferences.(happy- Comedy,action or adventure)**

- **Less is known about weather effect on digital media consumption, specifically genre preferences.**

Introduction

Objective:

- **To investigate the relationship between weather conditions and genre choices.**



Motivation

Personal Observation:

- Noted tendency to prefer different genres based on weather conditions (comedy on sunny days).

Scientific Interest:

- Exploring how environmental factors influence digital entertainment choices.

Research Question

How do different weather conditions influence the genre preferences ?

Research Question

How do different weather conditions influence the genre preferences of users ?

Variables:

- **Independent Variables: Weather conditions**
- **Dependent Variable: genre preferences.**

Definitions

Weather :

> “**Weather** is the state of the atmosphere, describing for example the degree to which it is hot or cold, wet or dry, calm or stormy, clear or cloudy”

Weather - Wikipedia

Definitions

Weather Conditions:

In this project our weather conditions are :

- **daily sunshine duration**
- **daily mean of cloud cover**
- **daily precipitation height**
- **daily mean of temperature**

Sunny

Rainy

Hot / Medium / Cold

Definitions

Genre:

- Categories used to classify films/episodes based on their narrative content (e.g., Action, Comedy, Drama).

- It is common that the narrative content has more than one genre

Definitions

Genres:

In this project our genres are :

Action, Adventure, Animation, Art, Biography, Book adaptation, Classics, Comedy, Coming of Age, Country & People, Crime, Drama, Environment, Episode Film, Everyday life, Family, Fantasy, Funny, History, Hobbies, Horror, Humor, Knowledge, LGBTQIA+, Music, Mystery, Nature, Politics, Romance, School, Science Fiction, Sentimental Film, Short Film, Society, Spiegelwissen, Sport, Thriller, Travel, War, Western, Youth Film

Action, Adventure, Horror, Comedy, Thriller, Romance, Drama, Fantasy, Western, Animation, Crime, Mystery, Science fiction

Data Collection

Weather Data: Historical records from DWD (Deutscher Wetterdienst https://www.dwd.de/EN/Home)

Example of a case from the CSV file:

```
STATIONS_ID,MESS_DATUM,QN_3,FX,FM,QN_4,RSK,RSKF,SDK,SHK_TAG,NM,VPM,PM,TMK,UPM,TXK,TNK,TGK,eor
403,20200101,-999,-999,-999,10,0.0,0,2.900,0,3.9,6.5,1022.90,1.8,94.00,5.0,-2.8,-6.3,eor
```

RSK: Daily precipitation height | mm
SDK: Daily sunshine duration | h
NM: Daily mean of cloud cover | ⅛ (octa)
TMK: Daily mean of temperature | °C

Data Collection

User Activity Data: Extracted from the FilmFriend platform (https://www.filmfriend.de/de/about-us).

Example of a case from the CSV file:

dateTime, zipCode ,**totalMetric**, Action, Adventure, Animation, Art, Biography, Book adaptation, Classics, Comedy, Coming of Age, Country & People, Crime, **Drama**, Environment, Episode Film, Everyday life, Family, Fantasy, Funny, History, Hobbies, Horror, Humor, Knowledge, LGBTQIA+, Music, Mystery, Nature, Politics, **Romance**, School, Science Fiction, Sentimental Film, Short Film, Society, Spiegelwissen, Sport, Thriller, Travel, War, Western, Youth Film, season, weekday

2020-01-01T00:00:00Z,15831,**86**,0,0,0,0,0,0,0,0,0,0,0,**86**,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,**86**,0,0,0,0,0,0,0,0,0,0,0,winter,Wednesday

Methodology

Data Preprocessing:

- CSV converting (done)
- Find the relevant values or intervals, which represent the more general weather conditions (what is hot ?/ hot is subjective based on the location and time of the year)
- Create a cluster based on the stations' location and join the datasets

Methodology

Data Analysis:

- Exploratory Data Analysis (EDA) to identify trends and correlations.

Machine Learning:

- Implement predictive models to forecast genre preferences based on weather data (Classification).

Expected Outcomes

- Patterns: Identification of significant patterns linking weather conditions to genre preferences.
- Predictive Model: A model capable of predicting user preferences based on weather.

Scope and Limitations

In Scope:

- Correlation of user activity with weather data.
- Use of machine learning for predictive analysis.

Out of Scope:

- Non-weather-related factors influencing preferences.
- Detailed psychological analysis of user behavior.

Challenges and Risks

- **Data Quality**: Ensuring accurate and complete data collection (eg. Film/Episodes/shorts, watching time)
- **Result Reliability**: Ensuring the reliability and validity of the results

  (wind is not available, daily averages and daily watching time, the intervals defining the weather conditions, the radius)

- **Generalizability**: Ensuring results are applicable to wider contexts beyond the specific dataset
- Model Accuracy: Developing models with high predictive accuracy.

Questions and Feedback

Discussion:

questions, feedback, and suggestions are always welcome