SATISFACTION SCOUTS: EFFICIENT CONCERT LINEUP PLANNING

Using Data Science to Enhance Concert Experiences

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INTRODUCTION

- Objective: Develop a model to rank a selected band in a concert lineup and predict the 3 nearest neighbor artists for each lineup part.
- Goal: Ensure a cost-effective method to ensure a cohesive and engaging experience for the audience.

PROBLEM STATEMENT

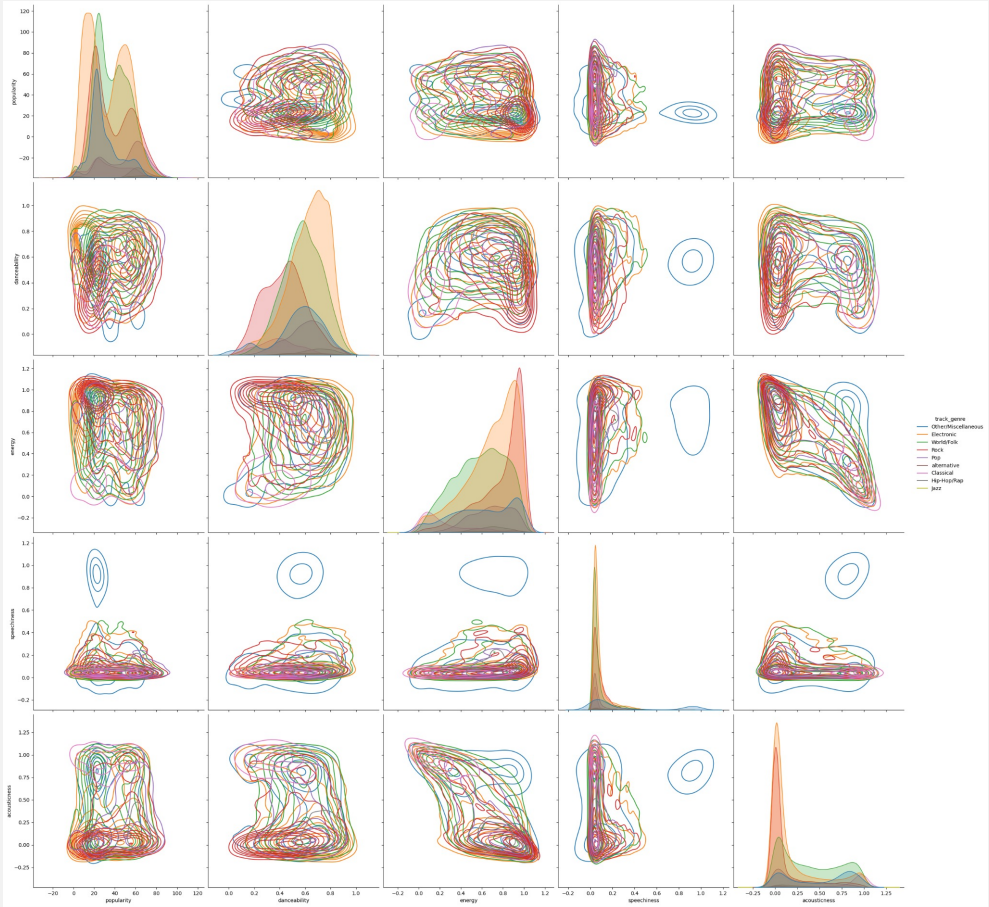
- Challenge: Concert organizers face difficulties in manually selecting and ranking bands for events.
- Solution: Automate the process using data-driven recommendations.

DATASET

- Source: Spotify API
- Features: Danceability, energy, loudness, speechiness, acousticness, instrumentalness, valence, tempo, genre, popularity, and if the song is explicit or not

EXPLORATORY DATA ANALYSIS

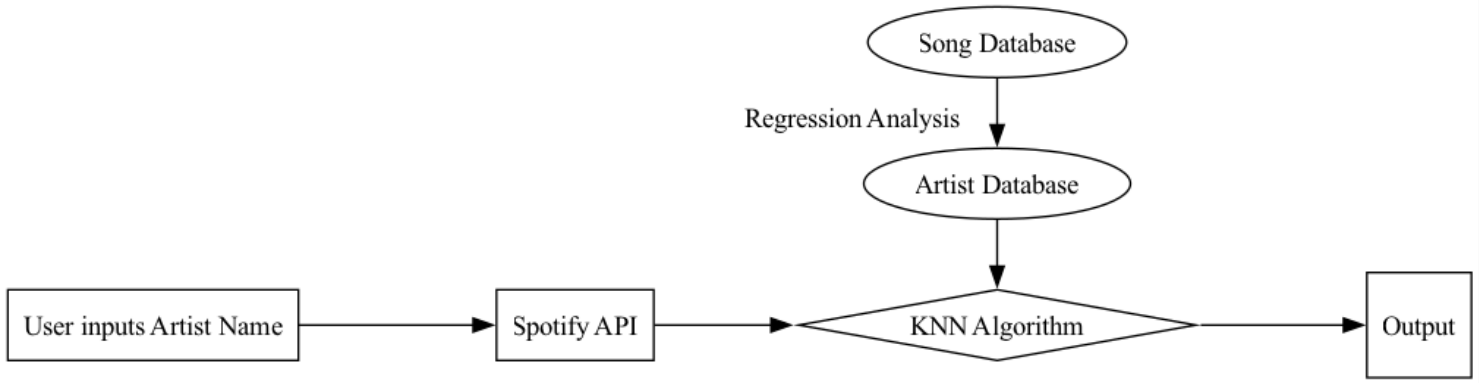
- We found that there is no real correlation between the numerical features in our dataset, indicating we cannot lower the dimension of our feature space.



METHODOLOGY

- Data Collection: Use Spotify's Web API to gather audio features and metadata.
- Data Preprocessing: Cleaning, encoding categorical data, and scaling numerical data.
- Modeling:

    - K-Nearest Neighbors (KNN)



MODEL TRAINING

- Use song statistics to model artist statistics.
- Train a Nearest Neighbors algorithm on our artists
- Pick new artist from Spotify API.
- Use Nearest Neighbors to predict similar artists for a concert lineup.

APPLICATION

- User Interface:
  - Input artist and track
  - Output nearest neighbors and suggested lineup
- Benefits:
  - Saves time
  - Enhances audience experience

DEMONSTRATION

BENEFITS & COST SAVINGS

Benefits:

- **Time Savings**: Automating the lineup creation process significantly reduces the time required for research and decision-making.
- **Enhanced Audience Experience**: Data-driven recommendations ensure more cohesive and engaging lineups, improving the overall concert experience.

Cost Savings

- **Research Cost Savings**: Automating research reduces costs
- **Marketing Efficiency**: Improved targeting increases ticket sales
- **Administrative Cost Reduction**: Reduces coordination time and costs
- **Increased Ticket Sales**: Optimized lineups attract more attendees

FUTURE WORK

Improvements:

- Expand dataset
- Incorporate real-time data

Potential Features:

- Automated scheduling
- Budgeting tools
- Lead Capture

CONCLUSION

- Effective use of data science in concert planning

- Promises better lineup curation and audience satisfaction