

International Pop Genre Classifier

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INTRODUCTION

Why do we care?



Cultural Pop Becoming More Mainstream

International pop is becoming more and more mainstream – as it becomes easier to share across countries and cultures exposure to other types of music is more common.



Barrier to Entry - Language + 'Cold Start'

However, it might be hard for some people to start listening to international pop – whether it's because of the language barrier, or even just because they don't know where to start.



Music is Universal!

But, music is universal! People can enjoy the rhythm or melody just as much even if it's in another language! We can start introducing new songs based on existing preferences.

OVERVIEW

Music Genres + Models

- ❖ **K-pop**
- ❖ **J-pop**
- ❖ **C-pop**
- ❖ **I-pop**

- ❖ **Dummy**
- ❖ **RandomForest**
- ❖ **SVM**
- ❖ **XGBoost**

We chose these genres because we are the most familiar with them. These classifiers are all commonly used models, with the 'dummy' as our baseline (always recommending Indian) to compare between models.

Features we used

Features that are
audio related, eg:
tempo,
acousticness,
danceability, energy

Sentiment from
lyrics

Features we did not use

Features that
reveal too much:
eg: artist, title,
language

Translated lyrics
into english to
avoid language
biases

FINDINGS

Features

C-pop

lowest energy,
highest acousticness

I-pop

high loudness,
least unique words

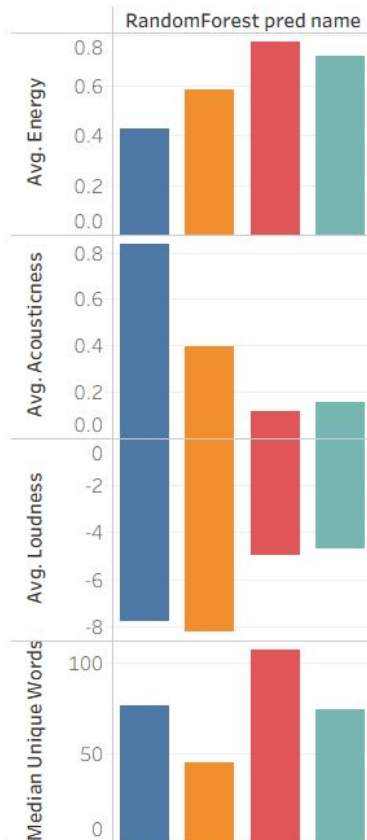
J-pop

highest energy,
lowest acousticness,
highest unique words

K-pop

most 'average' –
high energy, middling
loudness/unique
words

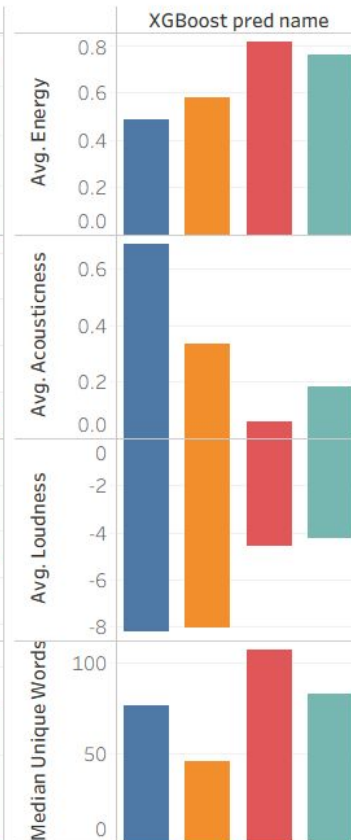
RandomForest



SVM

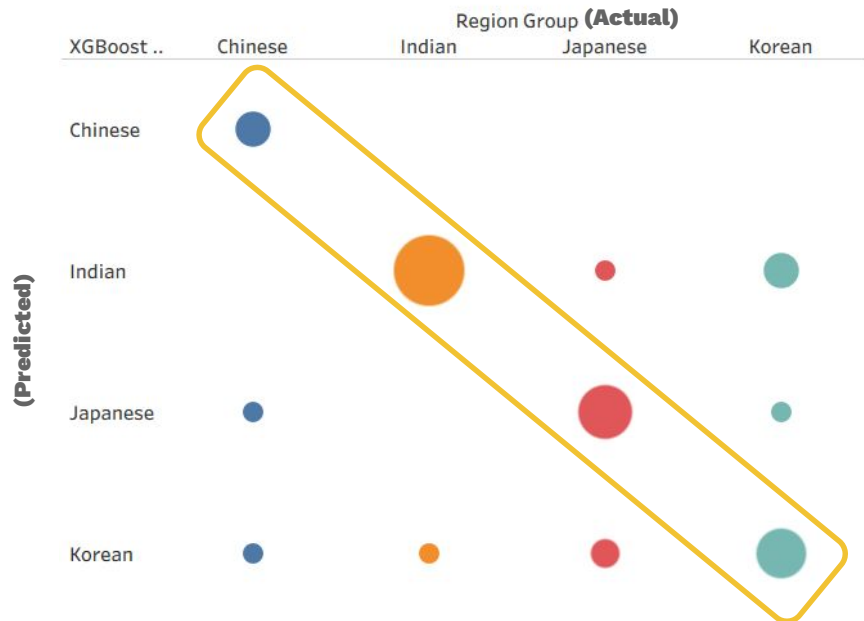


XGBoost



XGBoost

Actual vs Predicted XGBoost



```
XGBoost
Classes: ['Chinese', 'Indian', 'Japanese', 'Korean']
Confusion Matrix (rows=true, cols=pred):
[[ 3  0  1  1]
 [ 0 12  0  1]
 [ 0  1  7  2]
 [ 0  3  1  6]]
Accuracy: 0.7368
Macro F1: 0.7286
Weighted F1: 0.7336
Macro ROC AUC: 0.8934711122211123
```

Classification Report:				
	precision	recall	f1-score	support
Chinese	1.0000	0.6000	0.7500	5
Indian	0.7500	0.9231	0.8276	13
Japanese	0.7778	0.7000	0.7368	10
Korean	0.6000	0.6000	0.6000	10
accuracy			0.7368	38
macro avg	0.7819	0.7058	0.7286	38
weighted avg	0.7507	0.7368	0.7336	38

APPLICATIONS

American Pop Songs and their Respective Classification

Here are a couple of examples of what we found when we attempted classifying American pop songs using our model

Believer - Imagine Dragons
Firework - Katy Perry
Dynamite - BTS

K-pop

Smells Like Teen Spirit - Nirvana
Bring Me to Life - Evanescence
Welcome to the Black Parade - My Chemical Romance

J-pop

Piano Man - Billy Joel
Put Your Head on My Shoulder - Paul Anka
La Vie En Rose - Daniela Andrade

C-pop

Sick Boy - The Chainsmokers
No Role Modelz - J. Cole
Sympathy for the Devil - The Rolling Stones

I-pop

Thank you

