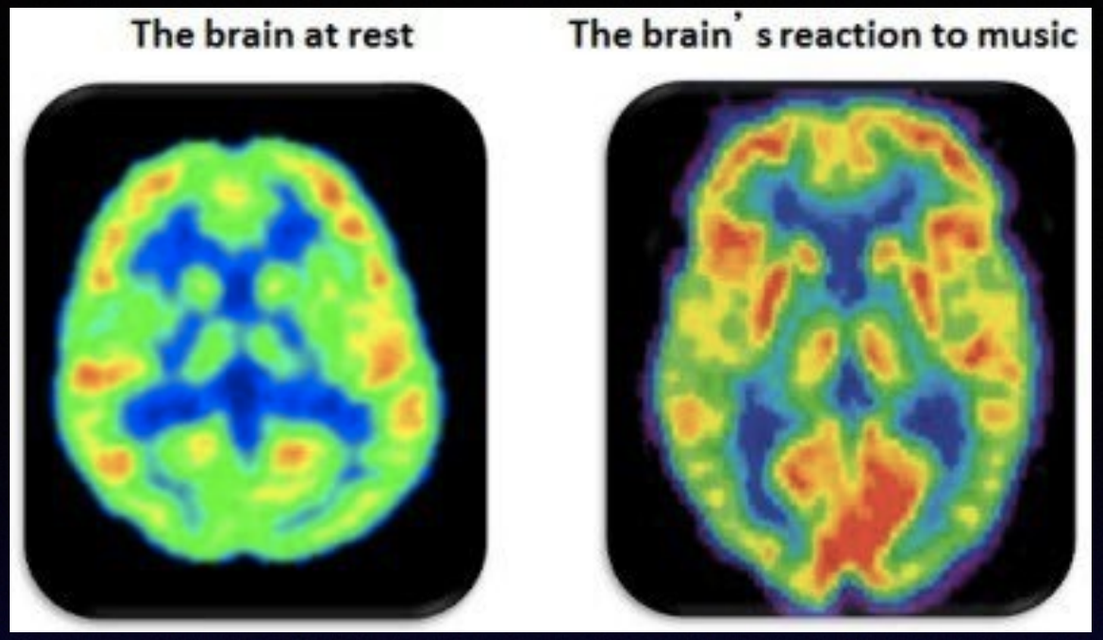
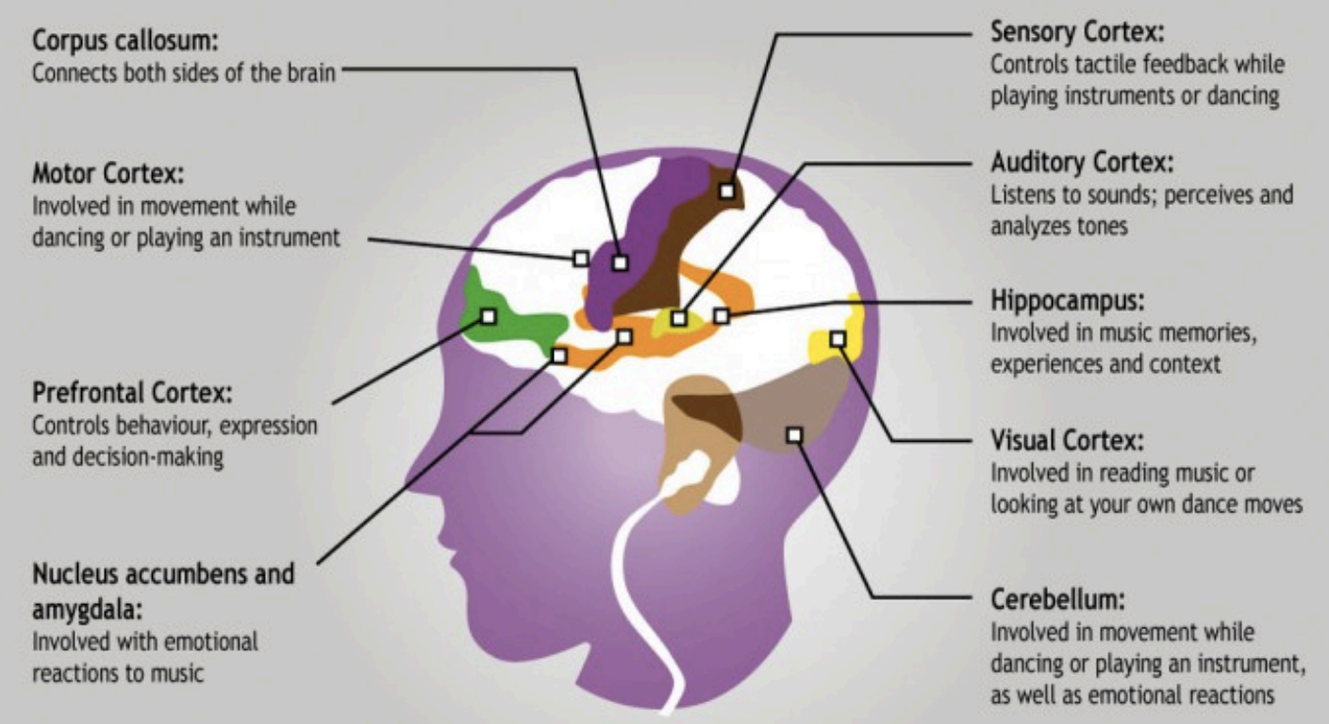
the music that moves us

how music affects your mind and emotions



MUSIC AND THE BRAIN

Playing and listening to music works several areas of the brain:



Corpus callosum:
Connects both sides of the brain

Motor Cortex:
Involved in movement while dancing or playing an instrument

Prefrontal Cortex:
Controls behaviour, expression and decision-making

Nucleus accumbens and amygdala:
Involved with emotional reactions to music

Sensory Cortex:
Controls tactile feedback while playing instruments or dancing

Auditory Cortex:
Listens to sounds; perceives and analyzes tones

Hippocampus:
Involved in music memories, experiences and context

Visual Cortex:
Involved in reading music or looking at your own dance moves

Cerebellum:
Involved in movement while dancing or playing an instrument, as well as emotional reactions

mind your music

- mood
- memory
- work performance
- exercise endurance
- blood pressure
- skin

the problem of playlist production

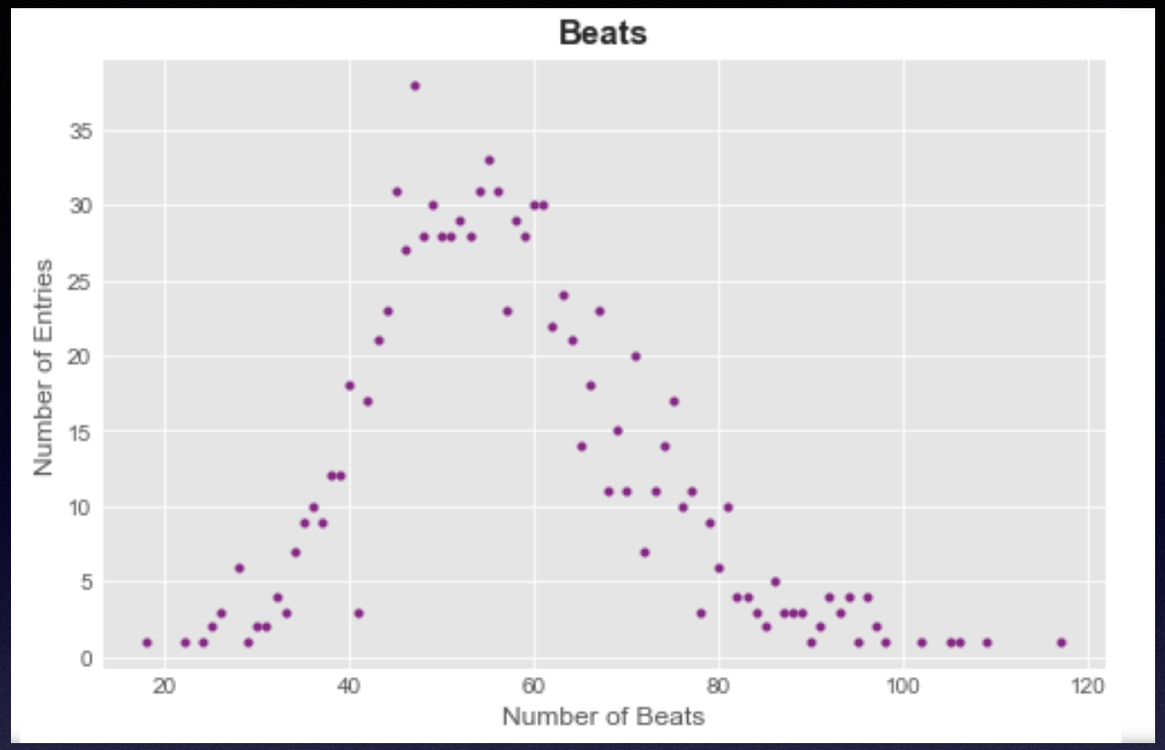
So what makes one genre different than another?

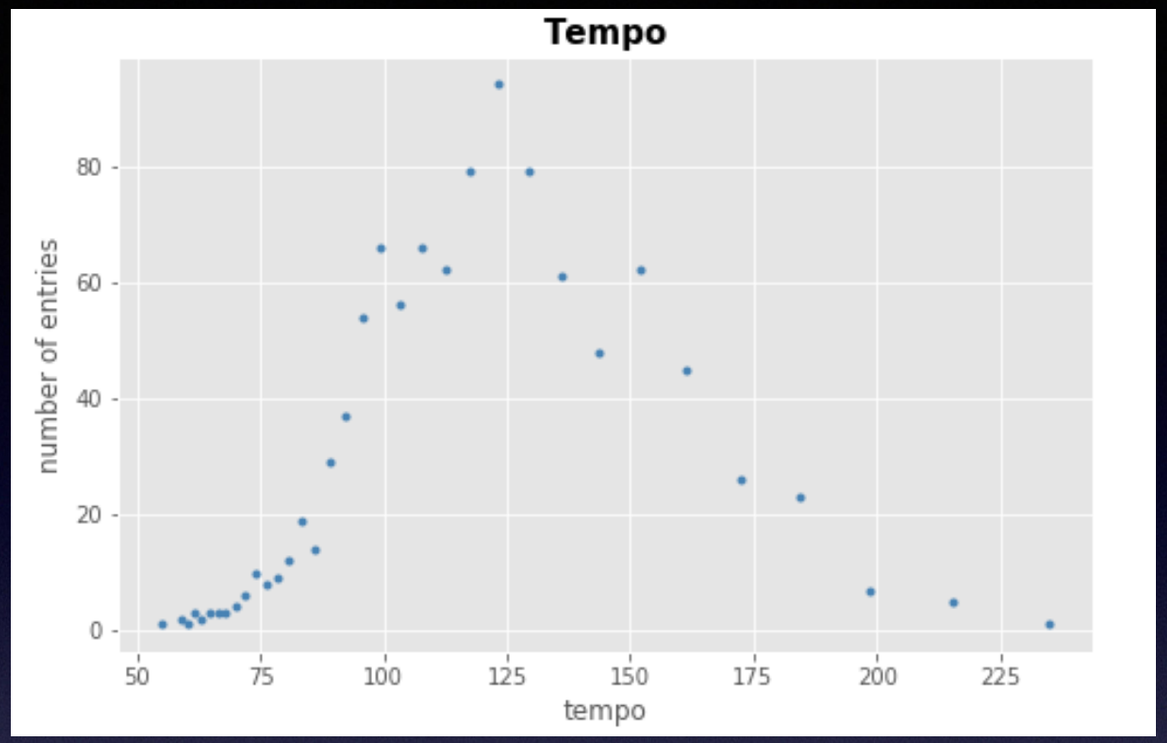
some elements of music

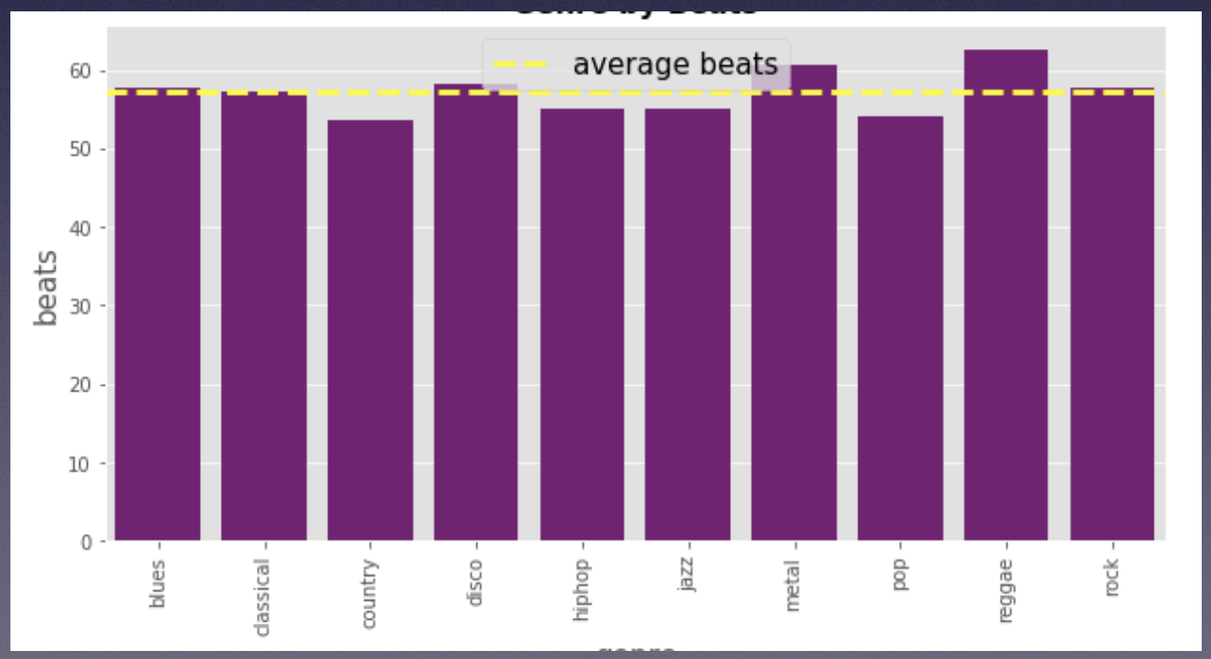
- beat
- tempo
- chroma
- spectral centroid
- zero crossing rate

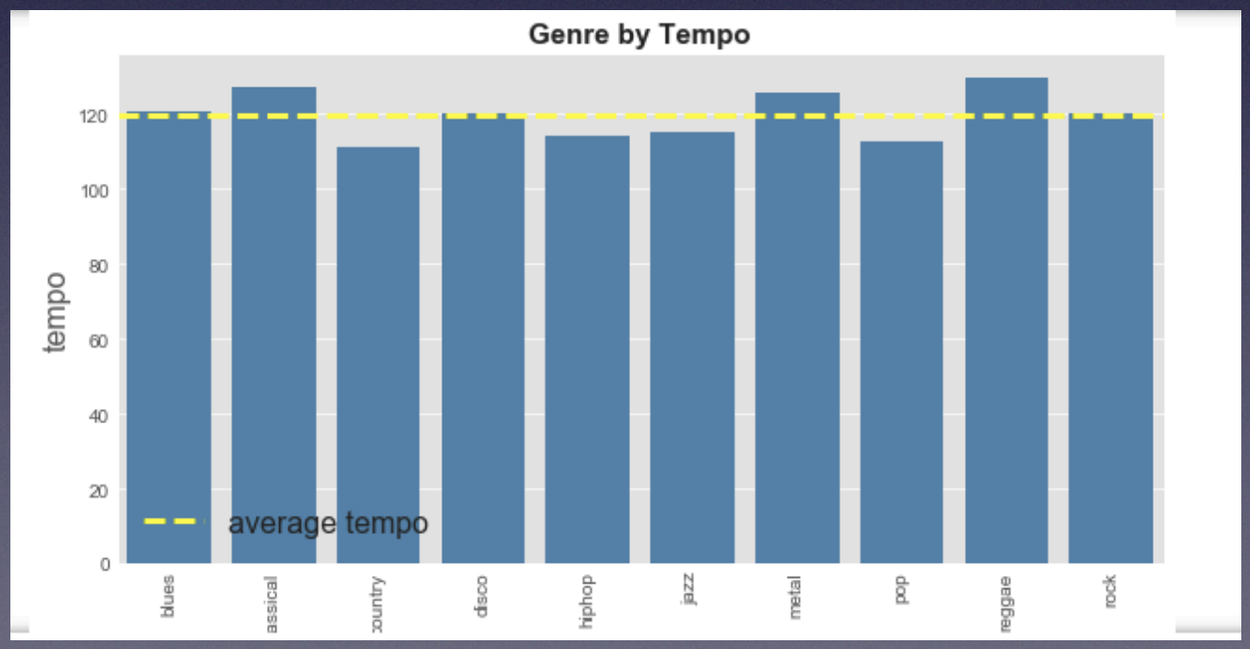
ppp - Very Quiet - Pianississimo - 30dB
pp - Somewhat Quiet - Pianissimo - 40dB
p - Quiet - Piano - 50dB
mp - Moderately Quiet - Mezzo-Piano - 60d
mf - Moderately Loud - Mezzo-Forte - 70dB
f - Somewhat Loud - Forte - 80dB
ff - Loud - Fortissimo - 90dB
fff - Very Loud - Fortississimo - 100dB

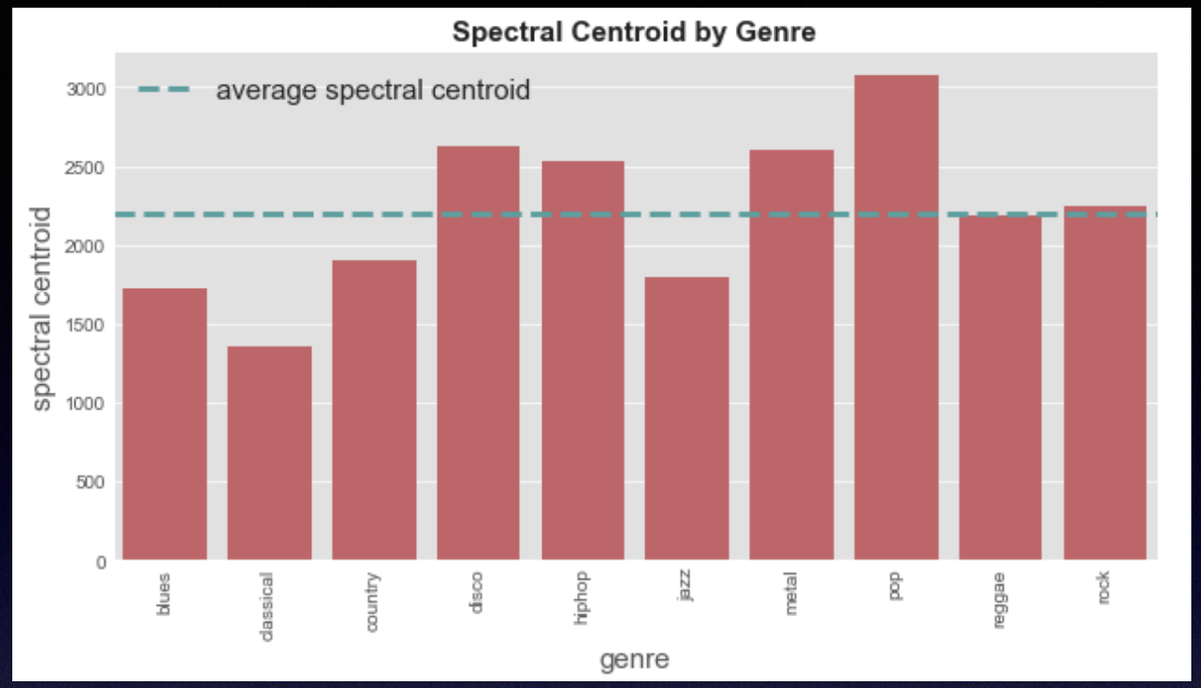
comparing beats with tempo...

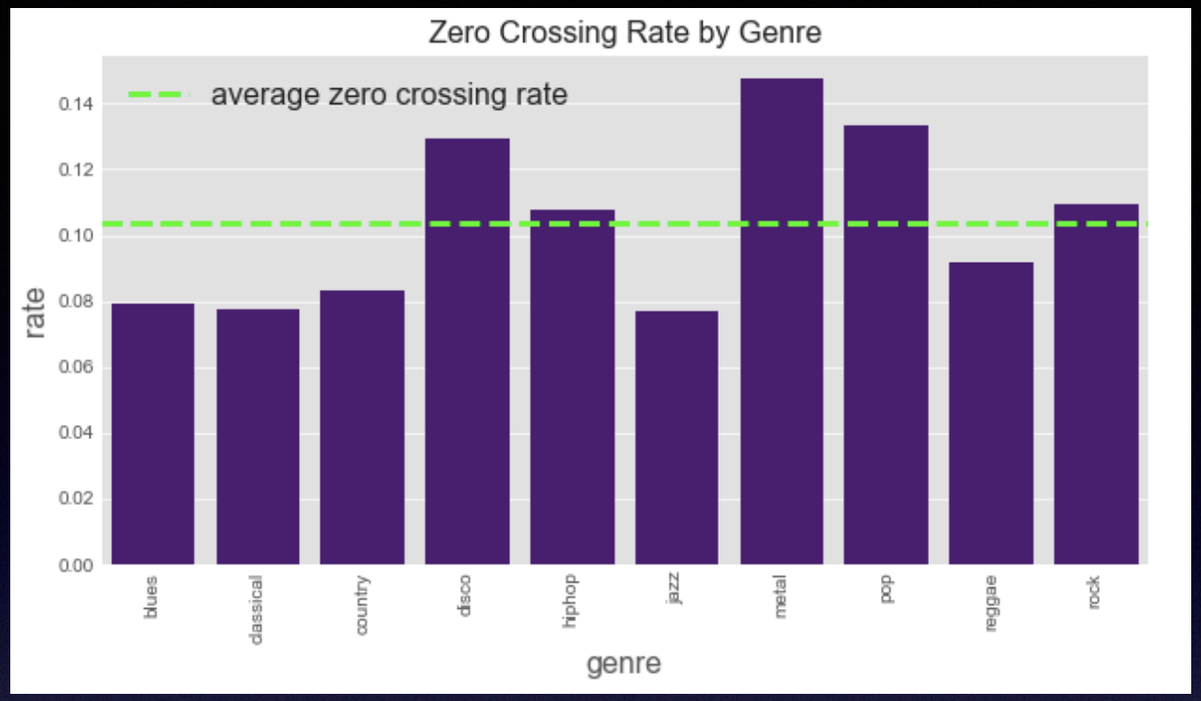




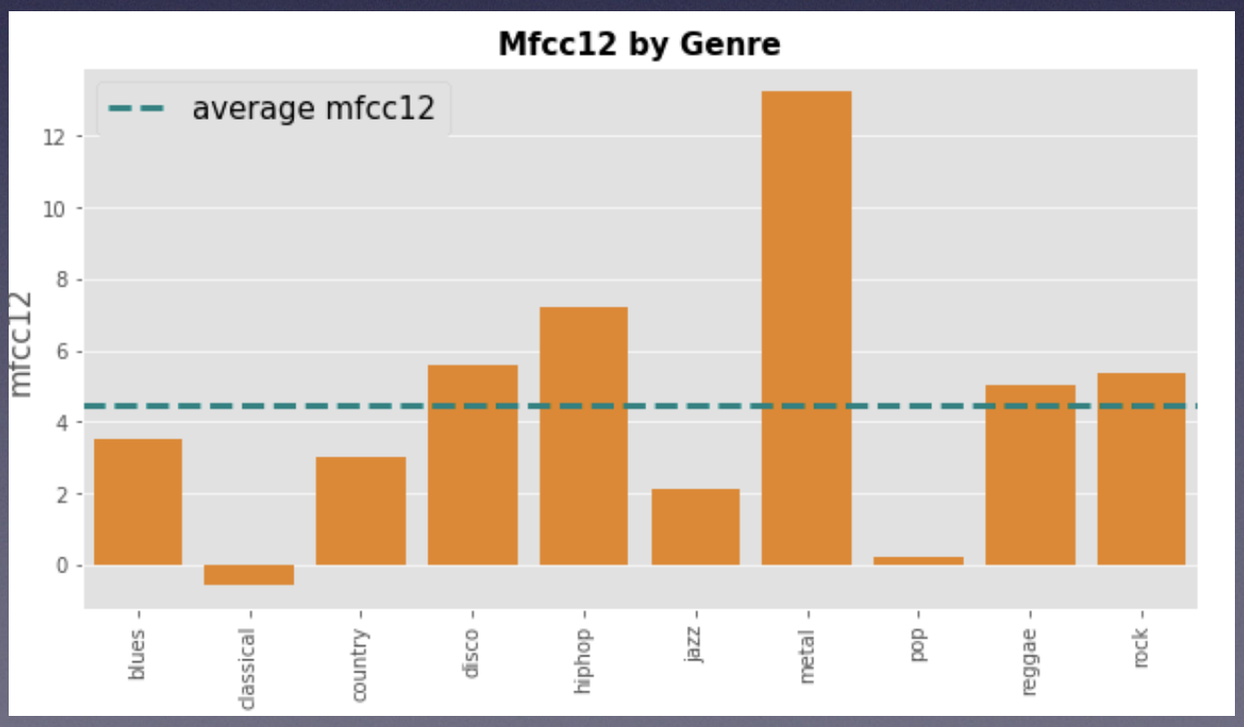


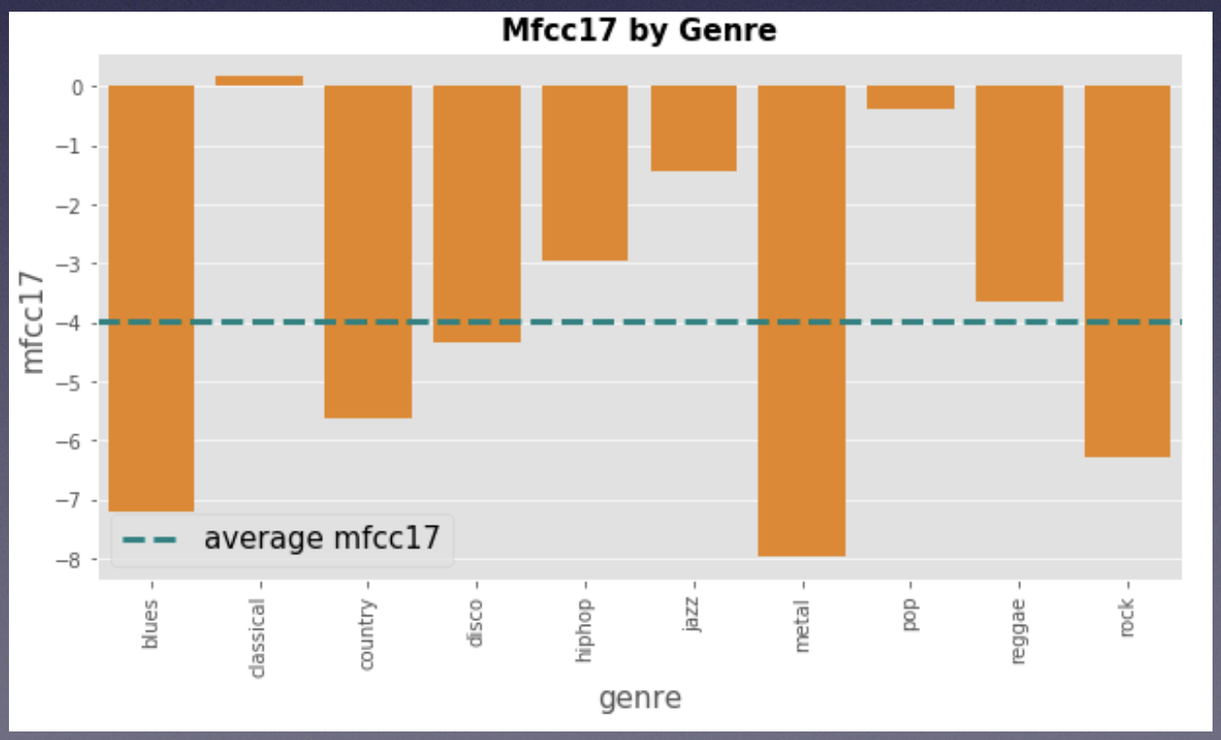






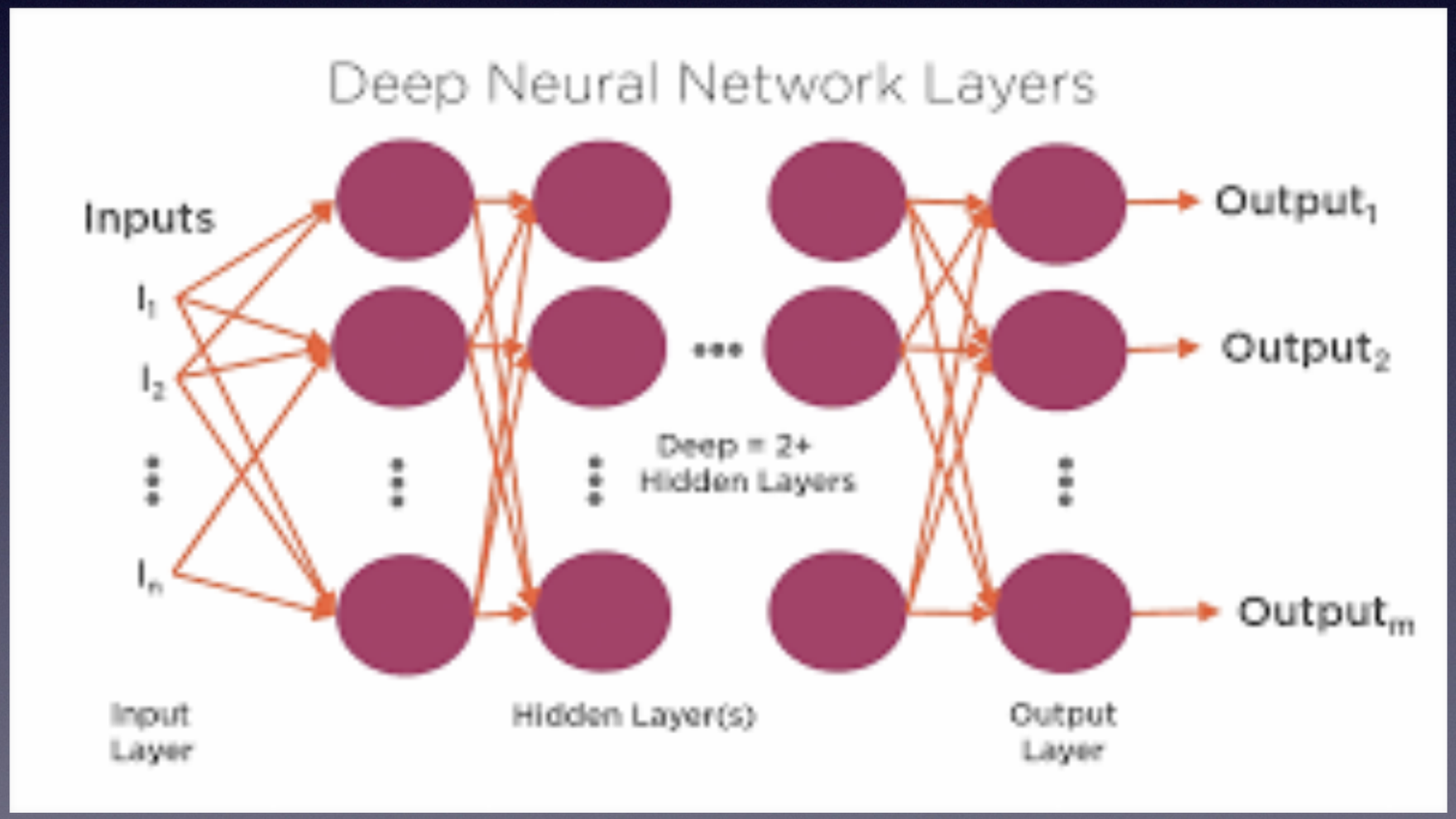
some genre differences show with other features





methodology

- deep learning - using layers to build our model



drumroll please...

- training data - 92% accuracy
- testing data - 71% accuracy

stay tuned!

- analyze incorrect classifications
- add more features
- Consider more genres

thank you

presentation by jenyl murdock