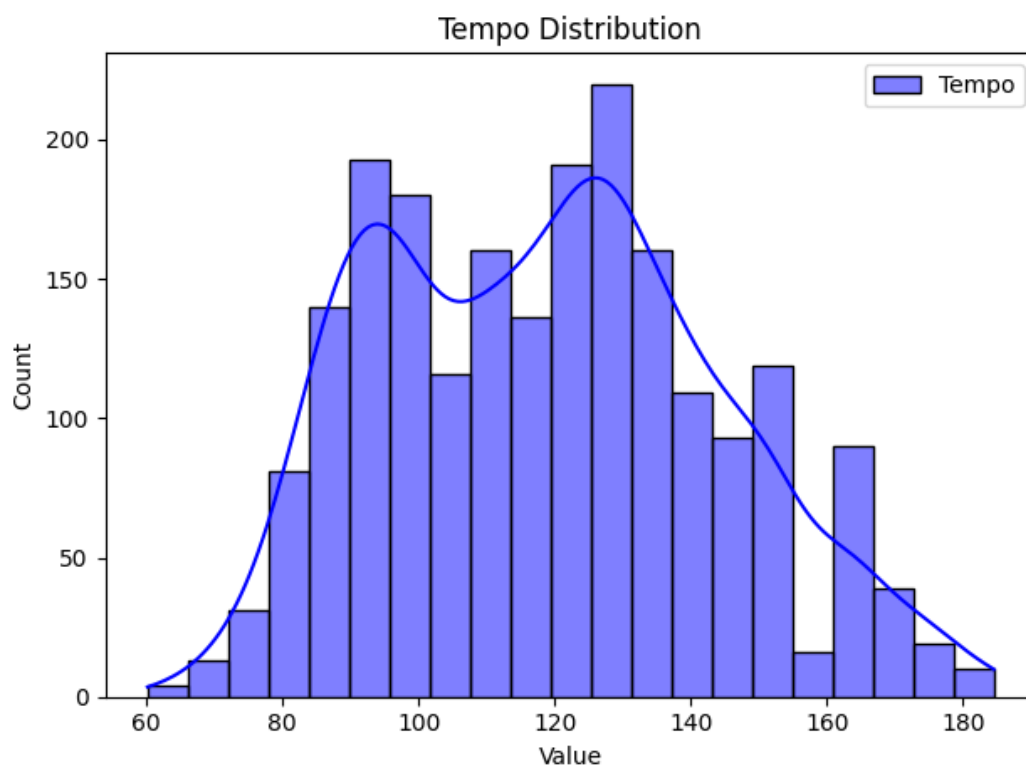# Music collection analysis

MusAV

The collection presents 2,120 songs across various aspects like tempo, danceability, key, loudness, and vocal/instrumental distribution.
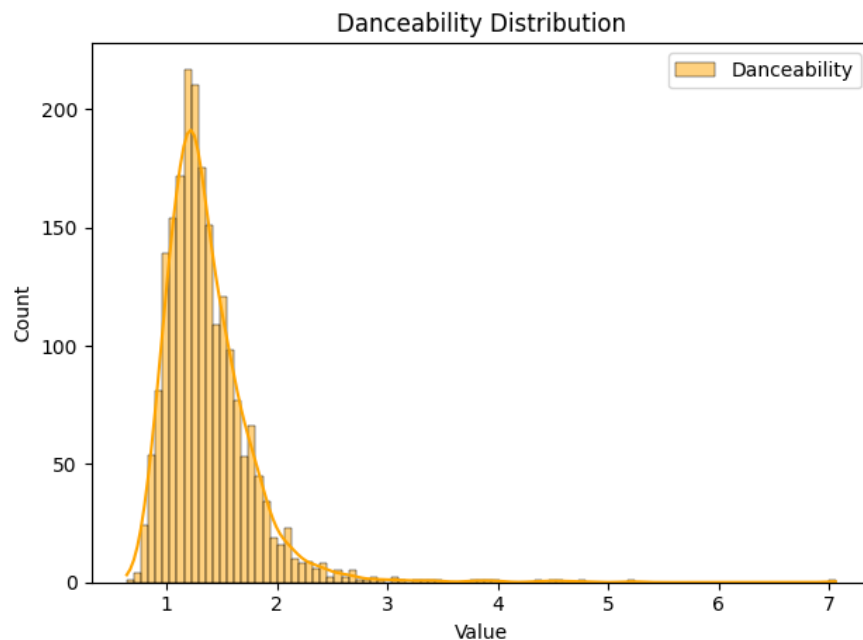
Tempo:

The average tempo of the collection is 119.12 beats per minute (bpm) with a standard deviation of 25.19 bpm. This indicates a moderate range of tempos, with some slower ballads and faster, energetic tracks. The distribution is slightly skewed towards faster tempos, with the median (50th percentile) at 119.76 bpm and the 75th percentile reaching 136.06 bpm.
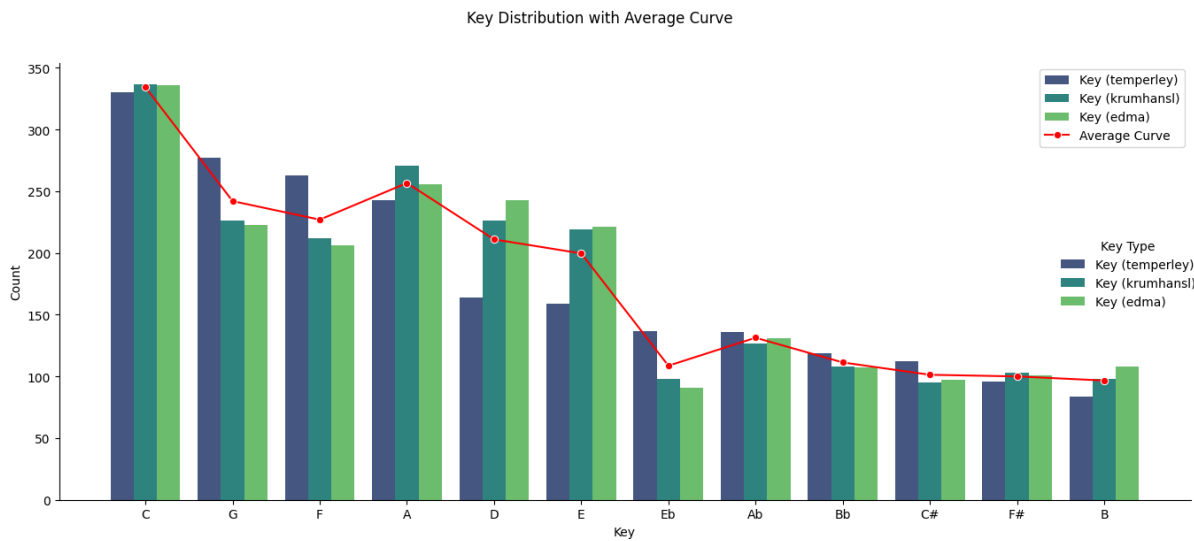
Danceability:

The average danceability score is 1.37. The standard deviation of 0.42 indicates some variation, with scores ranging from 0.64 (less danceable) to 7.06 (highly danceable).
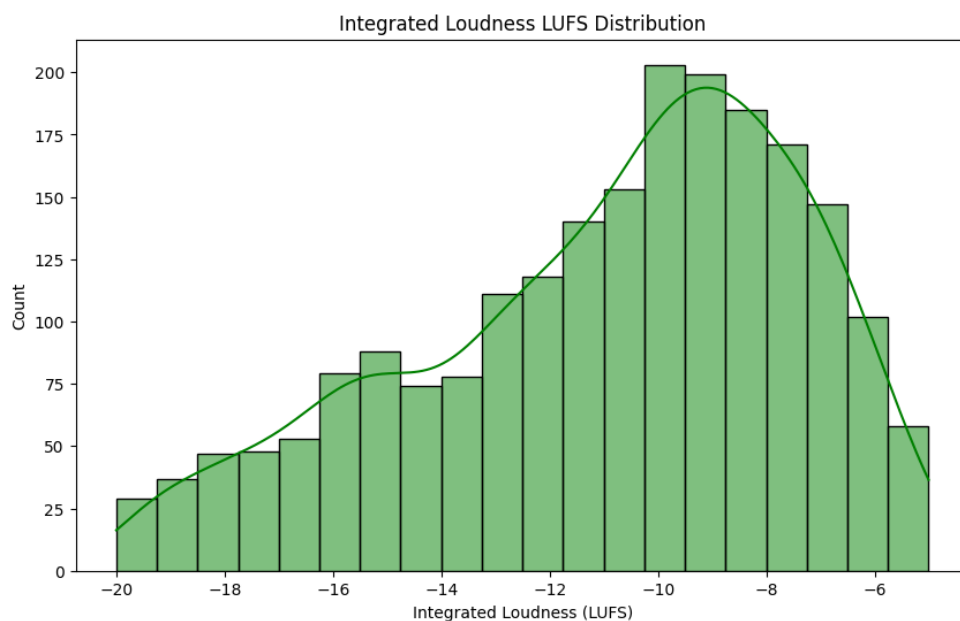

Key:

The most frequent key across three different key detection methods (Temperley, Krumhansl, and edma) is C major. This is a common key in Western music and offers a neutral starting point for both major and minor tonalities.

Key Distribution with Average Curve

Key detection across the three algorithms (Temperley, Krumhansl, edma) shows discrepancies: each algorithm uses unique methods for key identification, leading to variations, especially with ambiguous harmonies. Also, noisy or compressed audio can hinder accurate key detection.

Loudness:

The average loudness is -10.97 LUFS (Loudness Units Full Scale). The standard deviation of 3.55 LUFS suggests some variation in loudness, with quieter tracks reaching -19.99 LUFS and louder ones reaching -5.01 LUFS.

Integrated Loudness LUFS Distribution

The loudness report is partially consistent with the information from

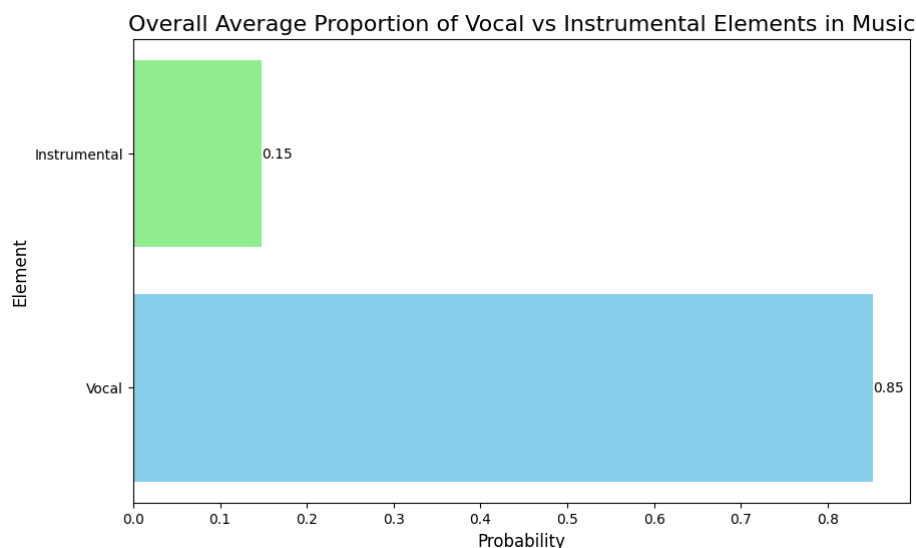https://majormixing.com/how-loud-should-my-master-be/

Similarities:

- Both the data and the article indicate an average loudness level that falls within the moderate range compared to the reference standard of 0 LUFS.

Differences:

- The average loudness in our report (-10.97 LUFS) is slightly quieter than the average mentioned in the article (-8 LUFS).

Vocal vs. Instrumental:

The collection consists of 85% vocal tracks and 15% instrumental tracks. This indicates a strong presence of singing and emphasizes the focus on song-based music.

Conclusions:

The analyzed music collection features a moderate tempo range with a slight leaning towards faster tempos. It leans slightly towards danceable music, with a diverse range within the category. The most frequent key is C major, suggesting a preference for neutral tonal starting

points. While the overall average loudness is moderate, there is some variation within the collection.

The majority of tracks are vocal, highlighting the collection's focus on song-based music.