New music recommendation system includes long-tail songs

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Music recommendation systems commonly offer users songs that others have enjoyed in the genres that the user requests. This can lead to popular songs becoming more popular. However, it neglects the less well-

known songs, the long-tail songs that users may well enjoy just as much but have less chance of hearing because of the way the recommendation algorithms work.

New work in the *International Journal of Computational Systems Engineering,* offers an approach to a music recommendation system that neglects the popular in favor of the long-tail and so could open users to new music. M. Sunitha and T. Adilakshmi Vasavi of the College of Engineering in Hyderabad, India, have developed a multi-stage graph-based method and a K-nearest neighbors (KNN)-based method to identify long-tail songs and feed these new works to the system's users.

Music recommendation systems have been developed to allow listeners to be offered content from huge digital libraries that might suit their tastes and preferences without any human intervention. Simpler systems are based on the prior classification of songs by artist, genre, and style and simply present seemingly related music to the listener. Other, more sophisticated systems, have subtler classifications and respond to the likes and dislikes of other users as well as the present user to find new material that the user might like; collaborative filtering. There are other mechanisms too and almost all of them will suffer from bias that might preclude the introduction of a little-known song to the user.

A recommendation system that can find music in the long-tail that a listener seeking novelty may not otherwise encounter would be a boon to those users bored with the same old popular artists and songs that can be heard endlessly across radio, television, cinema, and online. The long-tail approach, in some ways, mimics the discovery process of listening to an esoteric DJ on an obscure radio station and hearing one's new, earworm or finding one's new, favorite artist. The advantage is that one does not have to seek out that esoteric and obscure DJ nor be limited by the length of their show, there will be almost unlimited new, long-tail songs and artists to hear.

More information: M. Sunitha et al, Addressing long tail problem in music recommendation systems, *International Journal of Computational Systems Engineering* (2022). DOI: 10.1504/IJCSYSE.2021.121367

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