Dear Project Sponsors,

We hope you had a wonderful week! Here is an overview of our current status.

Current Stage

1. We have a word2vec representation of each song. The way we generated these vectors is by treating each song's Spotify unique id as a word, and trained a distributional representation by treating each playlist as a sentence. In a sense, this acts like a collaborative filtering. A playlist would then be represented as an average of all the song vectors in a playlist. On top of this, we also built a doc2vec representation of a playlist.
2. Implemented evaluation metrics of
    a. R-precision
    b. Normalized discounted cumulative gain (NDCG)

    and evaluated them on models based each on audio feature and the above mentioned word2vec representation.

Next Stage

1. Explore more in-depth how contextual information (i.e Youtube comments and genius description) can help ranking our model.
2. Possibly integrate all different embeddings we have generated (i.e vector representation of lyric, song, audio feature, and etc) into a same latent space for a more compatible universal embedding.
3. We thought about trying to submit a conference paper focused on contextual information to the RecSys conference. Some of the questions we might answer include
    a. Does contextual information actually improve our model?
    b. If so, which contextual information is useful
    c. What does each contextual information represent?

Please let us know if you have any suggestion or concerns regarding our project.

Sincerely,

Benjamin Sanchez-Lengeling, Timothy Lee,
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