Review of Project Proposal: Graph Neural Networks for Music Genre Classification

Summary (25%)

Major Claims of the Project: Using Graph Neural Networks (GNNs) for music genre classification and evaluation against deep learning models like CNNs and RNNs, capturing relationships between audio features and genres, hopefully leading to better classification results.

Relevance to CS5814: This project fits the scope of CS5814 as it covers advanced concepts like GNNs, and buildes on core knowledge of network architectures.

Reflection (40%)

Comprehensiveness: Great job covering all required items for the proposal: related work, feature extraction, model setup, training plans - I also like that you specified the datasets and libraries (like PyTorch LightGCN) that will be used

Uniqueness: Focus on using GNNs for music genre classification is unique based on your own literature rview here and my quick google search; I'm seeing more common being CNNs or RNNs.

Adherence to Guidelines: Checking all the guidlines: introduction, related work, contributions, datasets, methodology, and task distribution and you followed the ACM format well enough,

Technical Soundness and Analysis: Great job discussing the pros and cons of using GNNs in this domain. You could add more detail around preprocessing/extraction issues or optimization strategies for GNNs.

Completeness: Only thing I see missing is a breakdown of evaluation metrics and more comparisons with traditional models.

Pros/Cons (20%)

Strengths:

- **Novelty:** The use of GNNs in music genre classification.
- **Technical Plan:** The plan for preprocessing, training, and evaluation is great.

Weaknesses:

- **Evaluation Plan:** There isn't enough detail on which metrics (like Accuracy, Recall or F1 score) will be implemented.
- **Contributions:** I encourage you to dig a little deeper with respect to the deep learning novelty; perhaps consider doing more than re-evaluating the messages at each node or changing the way the data is represented. Consider exploring what the use of undirected vs directed approaches would bring to the table
- **Challenges:** Your primary experiment involves adding a new representation to nodes in a graph, some discussion around the limitations of highly dimensional spaces present in deep learning could be added and your proposed approaches to mediate,

Presentation Quality (15%)

Clarity: Well written! Easy to read.

Grammar and Style: Good grammar! I dont think you need the red numbering on the sides

Structure: Add some cool visuals besides the block diagram, get creative with convincing your reader to get excited about your idea.

Overall Feedback

Great proposal overall, well suited to deep learning. Adding more specifics on evaluation metrics, potential challenges, and try and broaden the contribution to push boundaries of what is in academia - don't play it safe!