Midterm Project Proposal: Generating Sheet Music with LSTM Networks

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Midterm Project Proposal

The domain of digital music composition has seen considerable advancements through the application of machine learning algorithms, specifically those capable of understanding and generating sequential data. Among these, Long Short-Term Memory (LSTM) networks, a type of recurrent neural network, have demonstrated remarkable ability in learning sequences with long-range dependencies, making them particularly suited for music generation tasks.

LSTMs have the unique capability to remember and forget information over long sequences, a feature that is crucial when dealing with the intricate patterns found in music. By leveraging this property, I propose to develop a system capable of generating sheet music. This project aims to explore the LSTM network's ability to learn musical patterns from a subset of the GiantMIDI-Piano dataset, a classical piano MIDI dataset that contains 10,855 MIDI files of 2,786 composers, and generate new music pieces that can be translated into sheet music.

References

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