Generating Music for Dance Using Deep Learning

The world we live in consists of information in multiple modalities, including vision, language, audio, etc. With recent advances in deep learning, researchers have demonstrated the effectiveness of deep generative models in the modalities of vision or language. However, applying generative models for the modality of audio, especially for music, has become a hard problem. Previous research on generating music focuses on discrete signals, with which the generated music often loses important details. Recently, OpenAI proposed Jukebox, which sheds some light on generating music on continuous raw signals, with which their model can generate long, vivid and style-consistent music.

Although Jukebox is able to condition on genre/artist/lyrics to generate music, it does not address the modality of vision, which is also an important factor for generating music. Previous research has touched the problem of generating dance for music, but there lacks research for generating music for dance, which could be even more important in real-world applications.

In this project, we aim to leverage state-of-the-art deep learning models to create music for dance. You will have access to powerful GPUs, and weekly discussions with us.

Requirements: Strong motivation, proficiency in Python, ability to read papers and work independently. Prior knowledge in deep learning is preferred.

Interested? Please contact us for more details!

Contact

- Zhao Meng: zhmeng@ethz.ch, ETZ G61.3
- Damian Pascual Ortiz: dpascual@ethz.ch, ETZ G93
- Yunpu Ma: cognitive.yunpu@gmail.com