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**Generative Adversarial Network for Irish Traditional Music Generation**

**Introduction**

The main idea would be to learn the structure of tunes generated from the learning models and doing statistical analysis by comparing the tunes to get measured output which matches the tunes. Irish traditional music will be used as dataset and GAN model will be used to generate the music.

**Background Research or Context**

There has been a lot of research done to do music generation with AI, most of the research which was successful made use of either the LSTM or RNN only. There have been few attempts to generate tune with GAN, but they mostly focused on a single tune or accord of a single instrument or song. In my project I wish to make use of Convolutional GAN model to generate Irish Traditional Music which will use a lot of tunes as dataset combined to generate music.

**Proposed Project**

Repositories of tunes from Irish Traditional Music will be used, the tunes will be passed to a GAN model which will generate unique tune based on the dataset. The main idea will be to train the GAN model to generate realistic tunes from the repository. The GAN model consists of generator and discriminator which makes use of two models concurrently. For this I plan to make use of RNN along with CNN for the desired output. The generated tune will be then analysed for matching the chords of tunes which were used, giving realistic tunes as output.

Future Scope: Comparing the output of different models (GAN vs LSTM) to Irish Traditional Music and analyse which gives better results and why.

**Timelines**

30th March – Train GAN to generate music based on the type of input.

30th May - Finish training the GAN model to give realistic output.

30th July – Finish the final analysis and report for the Project.

Aug – Project End

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