NANYANG TECHNOLOGICAL UNIVERSITY
SINGAPORE

School of Computer Science and Engineering
College of Engineering

Music Visualization

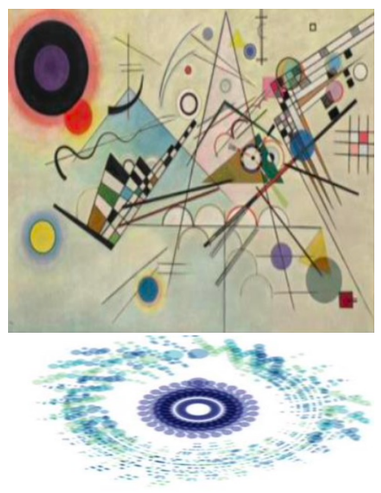
Using Deep Learning

Student: Kannan Shivani

Supervisor: Assoc Prof Alexei Sourin

Project Objective

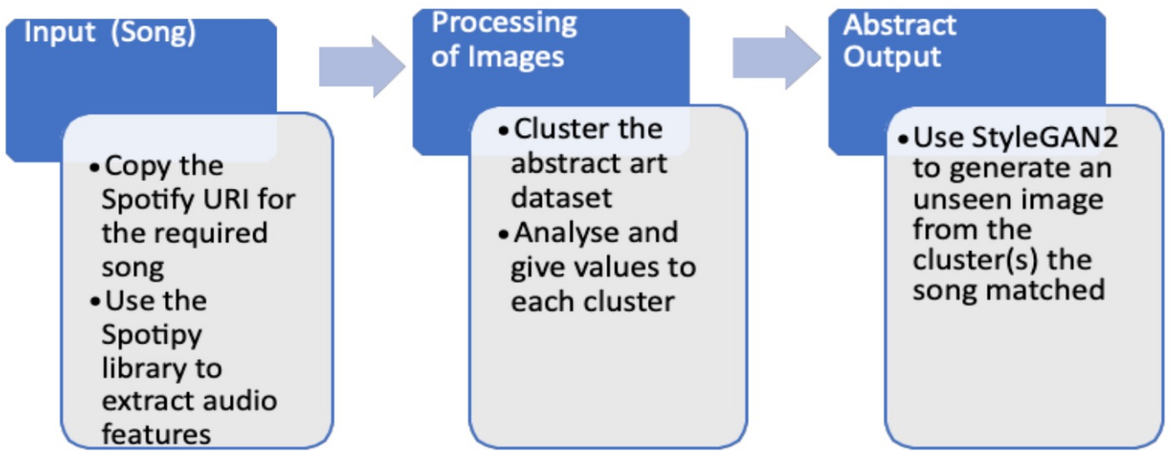
- This project aims to create a visual representation of music, that is both informative and aesthetically pleasing using Artificial Intelligence methods such as Deep Learning.
- The approach undertaken showcases an **abstract representation** of music in **static form.**
- Kandinsky's paintings are an example of abstract unstructured visualizations of music.



Visualizations Produced for Different Genres

Approach

The Spotify song's energy, tempo and mode are processed. This acts as a deciding factor for analyzing the sentiment of the song which corresponds to the brightness, colours present, number of colours and saturation of the picture.



Conclusion

- The user study helped verify that **songs that are similar** in mood, tempo and rhythm **produced similar outputs and vice versa**.
- It was concluded that different genres do not necessarily produce vastly different images, rather they produce **images solely based on sentiment rather than the genre** itself.