 BHARATIYA VIDYA BHAVAN’S

**SARDAR PATEL INSTITUTE OF TECHNOLOGY**

**(Autonomous Institute Affiliated to University of Mumbai)** MUNSHI NAGAR, ANDHERI (WEST), MUMBAI – 400 058.

**Department of Computer Engineering**  **SE Mini Project II**

**ACADEMIC YEAR: 2022-23**

**Date:** 02-Feb-2023

**Problem Statement:**

The problem of music generation with AI, as described in "Music Transformer: Generating Music with Long-Term Structure", is to develop a model that can generate original and coherent musical pieces while effectively capturing the long-term structure and timing relationships inherent in music. This requires a self-attention based sequence model, such as the Transformer, that can handle the complexity and variability of musical composition and performance. However, existing approaches for representing relative positional information in the Transformer have a memory complexity that is quadratic in the sequence length, making it impractical for long sequences such as musical compositions. The goal of this project is to reduce the intermediate memory requirement to linear in the sequence length and demonstrate that a Transformer with the modified relative attention mechanism can generate minute-long compositions with compelling structure and generate accompaniments conditioned on melodies. The ultimate aim is to achieve state-of-the-art results in music generation with AI.

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**Technologies we plan to use:** html/css, JavaScipt

**Name & UID :**

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