

The Transformer model has gained popularity because of its capabilities for solving multiple tasks. One of them is automatic music generation. Many studies have proven that this model can generate music with a consistent structure, but the pieces that are generated still lack emotion in it. In this paper, we extend Transformer-based model capabilities to generate music with controllable emotion. The emotion is divided into three categories: negative, neutral, and positive. We train the model using 120 MIDI files from our new piano datasets. The dataset has been labeled based on their emotion. The labeling process is done manually by hearing. The total MIDI files available in the dataset is 210 but we filter it so that only 120 remains. We also add a new token to represent emotion on REvamped MIDI-derived event (REMI). The experimental results show that human subject agreed that Transformer-XL model using REMI and emotion token is able to generate emotion-based music. We also compare our generated pieces with other datasets. The result show that the majority of respondents prefer pieces that are generated using our datasets.