Generation of Musical Progressions Using Bayesian Networks

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Nowadays it is very difficult for people who do not know about music to be able to create music that is pleasant for others. This study aims to solve this problem using Bayesian Networks to generate chord progressions based on popular song sequences and harmonic patterns. This was achieved by a program that analyzed the probabilities there are between thousands of songs and their harmonic progressions. Two groups of recordings were made, one (experimental group) was a progression of chords following the patterns of preexistent music. The second group (control group) was a progression of randomly generated chords. The control group was used as a contrast to the experimental group to determine how pleasantly sounding the recordings made by the musical patterns were. The study, using a survey method, assessed how consistent or pleasant the respondents found chord sequences generated with Bayesian networks compared to randomly generated chord sequences. It was found that the experimental group had a higher average score than the control group. A T-test was conducted to analyze the results of both groups and the result was .00000049631. It was demonstrated that the participants preferred the sequences of the experimental group, which is the one using bayesian networks, and that there is a statistically significant difference in the evaluation that the participants assigned to the experimental sequences with respect to those of the control group. In the future as a form of continuation melodies could be constructed and added to the harmonies created in the study.

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