

ABSTRACT

The rapid development of audio processing is felt a lot to help in advancing the development of digital music. Music consists of various *genres* and types according to the music content. The development of digital music especially in the perceived *genre* classification has helped in the ease of studying and searching for a song. It encourages the creation of ease in the variation of *genre* classification that is able to optimize the learning process which can be done easily, simple and has good quality in the search accuracy of a song. So we need a development of the learning process with a variety of methods and better algorithms. And in its development is limited first only on the classification of *genres* that have good quality in the accuracy of classification.

In previous research, used Backpropagation Neural Network with 67% accuracy. Furthermore, Hidden Markov Model (HMM) is used as a classification method but HMM here is still discrete, so it needs a process to convert a continuous value to a discrete HMM symbol. The best accuracy achieved by HMM is 80%. To overcome the weaknesses of HMM developed a classification method using the Continuous Density Hidden Markov Model (CD-HMM). CD-HMM is a development of HMM which does not require discrete process from input to symbol so input of continuous character can be processed immediately. In the previous study the number of *genres* is still limited to only three *genres* of rock, classical, country, reggae, and jazz. In this thesis, researchers conducted a comparison between HMM and CD-HMM on the *genre* classification. The number of classes in this study were five *genres* consisting of reggae, rock, classical, country, and jazz.

The classification of five *genres* of songs with reggae, rock, classical, country, and jazz *genres*, has the highest accuracy of 83.2% for the total of 75 training data per *genre* class, the number of test data 25 per *genre* class. The best CD-HMM parameter is k-means in mixture model 1 and iteration of CD-HMM training of 10. The highest accuracy of HMM classification is 61.6% for the data of trainer condition and the same test data on CD-HMM test with parameter of quantization value of 10, the value of the number of hidden state of 10, and the iteration of training of 10.

Keywords: Classification, music *genre*, HMM, CD-HMM.