

## Abstract

The purpose of this research is to implement hijaiyah letters recognition using Mel Frequency Cepstral Coefficients (MFCC) and Bayesian Networks. The datasets were used are in form of voice record from 6 speakers (3 male and 3 female) where each speaker reads 28 hijaiyah letters with 6 read sign. This research analyze the influence of Bayesian Networks model, the number of centroid in vector quantization, frame duration, and frame shift to system performance. MFCC was used to extract feature of voice signal. The result of feature extraction then quantized to transform continuous value to be discrete value then become the input of Bayesian Networks.

Based on testing result, MFCC and Bayesian Networks can give good enough system performance. Bayesian Networks model and several feature extraction parameters like frame duration and frame shift concluded influence performance system. Best system performance is f1 score 79,26%.

**Keywords:** Bayesian Networks, f1 score, hijaiyah letters, Mel Frequency Cepstral Coefficients