

## ***ABSTRACT***

Voice recognition is felt much help in the development of digital music. The development of digital music mainly on the perceived ease of speech recognition to recognize and test the accuracy of the desired music . It encourages the creation of variations easily capable of voice recognition is easy , simple and has good functionality in testing the accuracy of tone and pitch on a song . One of the convenience afforded in this study is an application of testing the accuracy of a human voice humming to a song you want.

In this thesis , is designed using the voice recognition feature extraction and modified FFT harmonics using a classification neural network back-propagation . In the extraction process is very menentukan traits match the position of the frame to the tune humming tone so that the determination of the location of the start of the frame is optimized by using a genetic algorithm . Genetic algorithms are used to determine the initial position of the frame that has the best best match on the process of feature extraction . Thus, the improved speech recognition performance . Voice recognition is used is human and made a humming sound matching with the original song .

After testing the system that has been designed . Parameters that produce maximum accuracy is the number of hidden layer 1 , the number of neurons of each layer 20 , the value of learning rate 0.05 tansig activation function for the hidden layer , the activation function for the output layer purelin , trainrp learning algorithm with accuracy 72 % of the training data as a data track 200 and 90 humming the data as test data . Genetic Algorithm parameters improve the accuracy to 83,33 % with parameter generation number 50 , the sheer number of individuals 25 , 0.6 crossover opportunities , and opportunities permutations 0.01 .

Keywords : Voice recognition , voice humming , Neural Network back-propagation , Genetic Algorithm , the title song .