

## ABSTRACT

Storage media in the form of file is widely used. Nowadays, most people more likely to store pictures, songs and videos in the form of file. One that is often used in the form of storage media is an audio file. For example, many people keep the songs on the Personal Computer. But the more files are stored, the difficulties in the search process is increasing. Therefore, they invented an application system that could recognize sound of the piano as input to search for song titles.

In this final project, the track search engine application could recognize sound of piano to find audio file. Feature extraction method used is the Harmonic Fast Fourier Transform (Harmonic FFT) with the Matlab programming language. Harmonic Fast Fourier Transform method take the value of the data harmonic frequency that aims to bring out the characteristics that exist in the sound input. Meanwhile, for the classification proses is using Artificial Neural Network Self Organizing Map (ANN-SOM). In this process, the range of classes for trial data and the classification results of the ANN-SOM is used to search songs.

In system that using this ANN-SOM method, the performance is obtained for a maximum of 90% accuracy with 90 systems data, 60 in database and 30 as input. It could be concluded that the JST-SOM method can be used as a classification method of search title track because its performance is good.

**Keywords :** Search Engine, Sound of Piano, Harmonic Fast Fourier Transform, Artificial Neural Network Self Organizing Map.