

## Abstract

Automatic speech recognition system is a system that allows computer to be able to recognize the spoken human speech and generates a response. This system requires acoustic model and language model to get a good speech recognition system.

One method of building acoustic models are Hidden Markov Model (HMM). HMM in the acoustic model describes the transition between the *state* of the speech signal that has been processed. Hidden Markov Model Toolkit (HTK) is a toolkit can build and manipulate the HMM of acoustic models. In addition, HTK also able to handle the modeling language of the speech recognition system. HTK consists of the libraries to build tools. User use HTK in hand tools only, without any change in library.

In the process of testing, get the best results by combining the language model and acoustic models. The result of the best speech recognition system performance are 78.89% word correct , 75.72% word accuracy and 45.73% sentence correct.

**Keywords:** automatic speech recognition, acoustic model, language model, HMM, HTK