

## Classification and identification of frog sound based on entropy approach

### Abstract

A new classification method for animal sound identification using entropy-based approach is proposed. Entropy is a measure of information contents or complexity for a sequence of a signal. This study introduces three definitions of entropy - Shannon entropy, R nyi entropy and Tsallis entropy, which are used in this paper as the features of extraction for the purpose of the pattern recognition of animal sounds. Sound samples from nine Microhylidae frogs are first segmented into syllables. Then, the features of each syllable are extracted using Shannon entropy, R nyi entropy and Tsallis entropy. The nonparametric k-th nearest neighbours (k-NN) classifier is then used for frog sound identification system. The result shows that the entropy-based animal sound identification system has successfully identified most of the frog species.