

## Frequency domain processing for artificial synthesis of swiftlet's sound waves

### ABSTRACT

Swiftlet is a valuable farming industry in SouthEast Asia for earning foreign exchange. Many countries at this region are competing with each other to localize this industry. However, inviting the swiftlets into the farms based on traditional bird-call playing involves a trial and error process. This paper proposes a new technique to mechanize this process using a spectrogram processing approach. A novel model has been designed to recognize the bird-call and construct the enrollment database. Then, a frequency-based processing of swiftlet's sound waves based on the database was built with real world swiftlet's sound waves. The proposed prototype can be applied successfully to improve this industry.

**Keyword:** Bird call recognition; Swiftlet sound; Synthesis swiftlet call; Frequency domain processing