ABSTRACT

In our daily life, we hear sound from various sources at the same time in a certain timespan. A number of sources that each produces sound at the same time create some sort of sound mixture. The human brain is capable of segmenting each sound in the mixture based on each source. This capability requires one to actually know or at least has a vague perception of what could be the source of a certain sound.

Research regarding source separation on polyphonic audio is aimed for enabling machine to percept and distinguish a mixture of sounds into their various sources. A number of techniques and methods have been developed to achieve such thing. Some of the techniques involves analyzing and learning the features of the audio signal. One of these techniques is Probabilistic Latent Component Analysis. PLCA decomposes a spectrogram of a sound source into a number of marginal as informations, which would then be used to extract that specific source from a sound mixture. In this final project, audio source separation is conducted using PLCA.

Keywords: Audio source separation, audio signal, polyphonic audio, Probabilistic Latent Component Analysis