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SOMPRASONG NAKNAIMEUNG : SPEECH ANALYSIS USING THE WAVELET TRANSFORM. THESIS ADVISORS : PIYAPONG SITHIKONG, Ph.D., PONGSAKORN SAIPECH, Ph.D. 54 P. ISBN 974-665-087-4

In this study we use wavelet analysis to attempt to identify the owner of a voice. This is done by trying to find quantities derived from the wavelet analysis that can be used to reliably distinguish the speech waveforms from different speakers. Two approaches are used. The first is based on the method of Kadambe and Boudreaux-Bartels and is referred to as the pitch period method. It relies on obtaining the pitch period as a function of time for the waveform. The second method relies on obtaining quantities that can be used to distinguish speech waveforms from different people directly from a list of the values of the wavelet coefficients. We call it the direct method. We find that our pitch period method does not give good enough results to be used for voice identification. However, we show that our direct method can be used as a basis for identifying voices.