

# **Liquid Composition Identification and Characteristic Measurement Using Ultrasonic Transmission Technique via Neural Network**

## **Abstract**

This project is to determine the composition of liquids solvent by using the ultrasonic frequency signal from echoscope scan machine. The transmission technique of ultrasonic signal is focused. On the research experiment, studies on mixing of distilled water with control sodium chloride (Kitchen Salt), kitchen sugar and monosodium glutamate (MSG). The Parameters such as Fast Fourier Transform (FFT) which is the parameters are using to identify the ratio of composition of liquid solvent. The feature extraction of median, average and root mean square (RMS) from FFT is represented with different result analysis such as sensitivity, specificity, accuracy, Area under curve, kappa, F-measure and precision. The results performed more than 90% with Neural Network.

## **Keywords**

Liquid identification; Neural Network; ultrasonic, Fast Fourier Transform