ABSTRACT

Beverages are product variations of liquids dissolved with certain ingredients. Knowing a level value in liquids today is still necessary measurement tools that are quite expensive and rarely possessed. Detecting and measuring the level of noise and the degree of acidity of a liquid should still be done separately and should be done in a qualified laboratory. Therefore, it takes a flexible tool and is able to measure both parameters accurately.

This research aims to design fluid classification tools on SmartCup with artificial neural network (ANN) backpropagation methods. Liquid classification is detected by combining the value of the level of noise and the degree of acidity value of the readings on the noise sensor and the pH sensor against water, tea and coffee. The ANN method is used to recognize the combination pattern of the two parameter values so that an accurate liquid classification can be produced.

Based on the test results on the tool, an accuracy score of 99.04% was obtained in classifying the liquid, and the accuracy value of each sensor used was 94.63% accuracy in the pH sensor calibration and 35.681% on the noise sensor calibration.

Keywords : Artificial Neural Network, Liquid Classification,pH Sensor, Turbidity Sensor.