

# ***Design and Build a Urine Analyzer Using the Artificial Neural Network (ANN) Method to Detect Kidney Function***

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## ***ABSTRACT***

*Urine is one of the body's excretions in the form of liquid. In the medical world, urine can be used to analyze diseases of the kidneys through microscopic and macroscopic examinations. Rapid development requires humans to work efficiently. To be able to help overcome this, it is necessary to conduct a study that can help overcome these problems. This study used three variable parameters found in urine in the form of pH levels, color and ammonia gas contained in urine. To get the pH, color and ammonia content in this study using the E201 pH sensor, TCS34725 and TGS2602 sensor. The method used in this study uses an artificial neural network with 5 neurons in the input layer, 10 neurons in the hidden layer and 1 neuron in the output layer. The results of the tests carried out resulted in a system success rate of above 90%.*

**Keywords:** *urine, pH, color, ammonia, ANN.*