Universiti Teknologi MARA

Prediction of Drinking Water Quality using Back-propagation Neural Network

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DECLARATION

I certify that this thesis and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledge in accordance with the standard referring practices of discipline.

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ABSTRACT

Water is very important in our daily life. Without safety water every living thing in this planet will die. People can survive 7 to 10 days without foods but can survive 1 to 3 days without water ("National Ag Safety Database", 2002). Human bodies consist of 70% of water. This statement proved that water is very important element in this planet to make sure every living thing can continue their life. Nowadays, people are concerned about water sources such as from fresh water, ground water and river for drink. Some of them are not safe and does not achieve standard of safe and healthy to drink and use. The purposed of this project is to solve this problem by predict the drinking water quality using Artificial Neural Network (ANN). It is focus on pH, manganese, iron and turbidity of water. A Back-propagation neural network is used in this project and it is fully develop using MATLAB. With the development of drinking water quality prediction, it provides the result either the water quality or not based on the trained water data. Within this result, the water company can improved the drinking water quality level to make sure the consumer get the healthy water.

Keywords: Drinking Water Quality, Artificial Neural Network (ANN), MATLAB, Back-propagation

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