

## ABSTRACT

The development of the current era, and the rapid development of technology and the need for a significant increase in demand, as well as pollution, the water sector, especially the river has experienced a decline in water quality even to the occurrence of pollution, resulting in water can no longer be consumed either by human body also for other needs.

Some of the systems that were developed began to be able to process existing data, be it conditions from water, chemical observations or physically. This is done because water is a necessity that cannot be tolerated, so this research is done to help fulfill or even provide a calm warning of water quality. With the development of IoT the monitoring system will develop, because with the existence of technology such as LPWAN as specific as possible, short data can be sent using lower power. Several previous studies have monitored the condition, both from the conditions of the content of the water, as well as the physical condition of the water itself. In this final project, the authors make a system that can monitor the level of information provided by the condition of water pollution levels using the fuzzy logic method. The system is made using tools that retrieve data, then the data will be displayed on the website in the form of information about river water conditions, as well as the level of contaminants.

In this final project, it was proven that the author could make a monitoring system and classification of river water pollution. By using an artificial intelligence, using the fuzzy logic method. The results of system testing show that the average accuracy of the monitoring system results is 99.7% and the results of the appropriate classification values are based on the results of system testing.

**Key Word :** *Fuzzy Logic, Monitoring, Classification, Water Pollution, Internet of Things*