

Sistem Pemantauan Kualitas Air Kolam Lele Menggunakan Metode *K-Nearest Neighbor* (KNN) Berbasis Iot

Catfish Pond Water Quality Monitoring System Using IoT-Based K-Nearest Neighbor (KNN) Method

Pembimbing (1 Orang)

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ABSTRACT

Catfish farming is gaining popularity in Indonesia due to its ease and profitability. However, optimal water quality is crucial for fish health and growth. Poor water quality can lead to fish mortality. This research aims to develop an effective and accurate IoT-based catfish pond water quality monitoring system. The system employs the K-Nearest Neighbor (KNN) method to analyze sensor data and determine optimal parameters such as pH and turbidity. Sensors and microcontrollers are used to monitor water quality, and Telegram Bot integration enables the system to send real-time notifications to users. The research findings demonstrate that the system has been successfully developed and is capable of real-time water quality monitoring with high accuracy. The pH sensor accuracy tested on pool water samples reached 98,29%. This system is expected to assist catfish farmers in maintaining water quality and fish health, thereby increasing the likelihood of successful aquaculture.

Keywords : *Catfish Farming, Internet of Things (IoT), K-Nearest Neighbor (KNN), Water Quality, Telegram Bot.*