**Abstract**

**Aquaponics-Recirculation Aquaculture System (A-RAS) technology combines the principles of recirculation between aquaculture and hydroponics. With A RAS, water, which is the main aspect in the success of aquaponics, can be maintained optimally. This research combines catfish farming and hydroponic plants. Considering that catfish waste and food waste can pollute water with high levels of ammonia, a filtration system is needed that can convert ammonia (NH3) and nitrite (NO2-) into nitrate (NO3-), a nitrogen compound that is useful as plant nutrition. Once the water is clean and has high oxygen levels, the water is channeled back to the catfish pond. This research aims to develop an intelligent system for aquaponic cultivation by utilizing Internet of Things (IoT) technology, by applying the thresholding method to the aquaponic IoT system, making it possible to obtain accurate real-time data on pH and ammonia gas levels in water. In situations where the sensors detect anomalies, the system responds quickly and takes automatic action in the form of neutralizing fluid injection that protect water quality, which have pH of 5,5 – 9,5.**

**Keywords: internet of things (IoT), aquaponics-recirculation aquaculture system (A-RAS)**

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**Struktur Database**