DESIGN AND BUILD AN AUTOMATIC RICE (GRAIN) DRYER USING FUZZY LOGIC

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ABSTRACT

This final project is designed using fuzzy logic which is applied to regulate the temperature and humidity of the rice grain dryer. The system consists of an Arduino Uno ATMega328 microcontroller circuit, a DHT22 temperature and humidity sensor circuit, an L298N motor driver circuit, a 16x2 LCD circuit and a Peltier Heater and Heatsink Fan circuit. The fuzzy logic used is Fuzzy Mamdani. The fuzzy logic control inputs are temperature and humidity, the output generated by the fuzzy logic control is the heater peltier value and the fan value to regulate the room temperature so that it is stable and according to the desired command. By using fuzzy logic control, each input and output variable will be fuzzified with 4 membership functions. The fuzzyfication method used is the Mean of Maximum. The results obtained are the drying system of rice grains (grain) will automatically produce the temperature and humidity that we ordered.

Keywords*: Fuzzy Logic, Automatic Dryer, Arduino ATMega328, Temperature, Humidity, Rice Grain.*