ABSTRACT

Air cooler is a device used to cool the surrounding air. Unlike air conditioner, air cooler can only reduce the temperature a few degrees and air cooler also need fuel in the form of water. The effectiveness of air cooler to cool the surrounding area very dependent on the water used. The colder the water used will also lower the temperature of the air produced by air cooler. Air cooler utilize water that is add with ice cubes to produce cold temperatures. But the nature of ice that easy to melt is one of the drawback. This research makes a series of peltier that is implanted in the air cooler to keep the cold temperature of the water material maintained. By utilizing air temperature data generated by the air cooler, the process of grouping data is done using fuzzy c-means. The result of the data grouping will be processed by NodeMCU so that it can control the peltier circuit embedded in the air cooler and also adjust the temperature according to user input. The experimental results proved the water material added with ice blocks and also the peltier circuit can reduce the water temperature to reach 25.5 ℃. The minimum temperature obtained from fuzzy can control the peltier so that the air produced by the air cooler according to user desires with a range of 25 ℃ to 30 ℃.