

Abstract

In this final project, the voice is used as a controller so that the system works automatically using the LPC (Linear Predictive Coding) and ANFIS (Adaptive Neuro Fuzzy Inference System) methods. LPC is used to extract features based on the voice input of 3 types of words, namely "on", "off" and "dim". Then in the learning process the features that have been obtained are used the ANFIS method. After that ANFIS will issue an output in the form of a command that will be sent using a web server to the NodeMCU microcontroller, in the microcontroller there is a condition where when the command word is on, Lamp1 and Lamp 2 will turn on, when the command word is off then Lamp 1 and Lamp 2 will turn off, when the command word dims then Lampu 1 will turn off and lamp 2 will turn on. In this final project, the results of the analysis of LPC and ANFIS performance tests on Smart Lighting control are also obtained based on the total number of LPC features used. For a total of 3 LPC features and using a combination of features 1 and 3, the accuracy rate is 87%. So it can be concluded that the LPC and ANFIS methods can be used in Voice Recognition-based Smart Lighting controls because the accuracy level reaches 87%.