

## Abstract

In this final project, it's made a systems which is combined *fuzzy* system as a method for identified atribut that has uncertain value and give a rule about the feasibility of an aircraft with backpropagation artificial neural networks as a method to classify the aircraft and provide synaptic weights in each rule. The airplane will be divided into two classes namely feasible and unfeasible. Is a feasible class aircraft that had passed the examination in 48 mhrs aircraft and airworthy, while the class is a class of aircraft is not feasible that have not passed the examination in 48 mhrs plane and not airworthy.

The method of fuzzy systems have the ability to recognize the value that has no definite truth value and describe the rules. While backpropagation artificial neural networks is the network with a supervised learning. The superiority of backpropagation is to have good performance and can handle a variety of ANN structure as well. Aircraft classification process uses 2 different training patterns of each 80 training data with a test pattern of 32 test data. The testing result from this final project, the best parameters of fuzzy system dan backpropagation is using second composition data, the first threshold, maxepoch 200, and learning rate 0,1 with an accuracy result is 100%

**Keywords:** classification, mhrs, fuzzy system, learning, backpropagation, ANN