

## Abstract

Indonesia is a country with so many island with tons of main agriculture comodities. The most agricultural comodities are chili and red onion. Based on historical price, chili and red onion price have so many fluctuation that we can see the pattern, eventhough the price every year got some upcoming price. Untill today the price of both comodities get a standar from the supplier. So we need a price prediction to get a view about the price of these comodities when they harvested later.

In this final task Elman Neural Network was used to predict price of chili and red onion for the next 10 weeks or when its time to harvest. But this algorithm has some weakness in search for searching best weight for connection to each neuron. Like what it said in [1] for a better result we can *hybrid* the algorithm with Genetic Algorithm. Genetic algorithm generate individual with real reprentation for solution to each weight on Neural Network. Those individual get a selection from MAPE that coming from fitness to get best chromosome. Then this individual get parent selection, recombination, and mutation to get one best individual that represent optimum weight of Neural Network.

*Hybrid* Artificial Neural Network Elman Architecture with Genetic Algoritihm giving the result of price prediction within average training MAPE 25,786 and average testing MAPE 44,6772, and with genetic algorithm parameter cross-over probability 0,6 and 0,8, mutation probabability 0,1, population 50, and maximum generation 500.

Keyword : price prediction, agriculture comodities, *Elman neural network*, *Hybrid*, *Genetic Algorithm*