

UNIVERSITI TEKNOLOGI MARA

**COMPARISON BETWEEN ARTIFICIAL NEURAL
NETWORK AND NON-LINEAR AUTO
REGRESSIVE MOVING AVERAGE (NARMA)
MODELS FOR INTERNET TRAFFIC**

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ABSTRACT

With the rapid development of technology today, the development of computer and network communication technology also has no exceptions. Due to this development, most applications are accessible to the internet network. As a result, most people are more comfortable to do their daily activities or tasks using the internet because it is more easily done without moving from one place. As the number of online users increases, other problems also have been raised together such as network traffic and might lead to worsen the problem. If this problem occurs, users might have a problem to access the server. Predicting internet traffic is one of the solutions that can help to overcome this problem. Countermeasures steps can be taken before any problems occur and can give good quality services to the customers. There are many studies that already have been done before which the main idea is to predict internet traffic. The differences between these studies are their methods to approach this problem. Most of their studies are based on Artificial Neural Network and combined with other methods. Any changes in network traffic can be detected and analysis steps can be done to detect the causes of the changes. This study is to approach the main problems which to predict internet traffic more effectively using Non-Linear Auto Regressive Moving Average (NARMA) Model. This study will compare two models which are artificial neural network and polynomial of NARMA model. The performance of those NARMA models will be evaluated by using model fitting and model validation tests.

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