

## **Abstract**

In term of computer network, intrusion is an action to break the authority or to exceed the privilege in computer system. Intrusion can threat the business process work flow in the organization or company. Intrusion Prevention System (IPS) is a solution to overcome this issue. IPS is the successor of Intrusion Detection System. IPS will respond the intrusion event by stopping the intrusion. In this thesis there are IPS developed by implementing artificial neural network (ANN) as the component to determine intrusion/attack. However, the ANN need to be trained before it can be implemented in IPS. Training is conducted by using standard backpropagation learning algorithm. The experiment involves several ANN architecture with packet header information as the input. The training data is taken from DARPA Intrusion Detection Dataset. Finally, the ANN architectures in the experiment are evaluated for the feasibility to be implemented in IPS. This thesis discovered that some ANN architectures in the experiment are not good enough to be implemented in IPS.

**Keywords:** intrusion prevention system, artificial neural network, backpropagation.