

Intrusion Detection Using Dual Artificial Techniques

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Abstract : With the abnormal growth of the usage of computers over networks and under the consideration or agreement of most of the computer security experts who said that the goal of building a secure system is never achieved effectively, all these points led to the design of the intrusion detection systems(IDS). This research adopts a comparison between two techniques for network intrusion detection, The first one used the (Particles Swarm Optimization) that fall within the field (Swarm Intelligence). In this Act, the algorithm Enhanced for the purpose of obtaining the minimum error rate by amending the cluster centers when better fitness function is found through the training stages. Results show that this modification gives more efficient exploration of the original algorithm. The second algorithm used a (Back propagation NN) algorithm. Finally a comparison between the results of two methods used were based on (NSL_KDD) data sets for the construction and evaluation of intrusion detection systems. This research is only interested in clustering the two categories (Normal and Abnormal) for the given connection records. Practices experiments result in intrude detection rate (99.183818%) for EPSO and intrude detection rate (69.446416%) for BP neural network.

Keywords : IDS, SI, BP, NSL_KDD, PSO

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