**INTRUSION DETECTION WITH NEURAL NETWORKS**

M Manogna Y Priya Harika

Department of computer science Department of computer science

Vasavi college of engineering Narayanamma college

manogna.mattupalli@gmail.com priyaharika0211@gmail.com

In the past few years, we have seen the evolvement of variety of technologies and a rapid expansion of computer networks. Hence, security has become the most crucial issue in the present world. A good way to detect any breach in the security of a computer system is by monitoring unusual user activity i.e. by intrusion detection. Current methods of detecting intrusion are based on hand-coded rule sets or predicting commands on-line are laborious to build and are not very reliable. This paper proposes a new way of detecting intrusions i.e. by applying neural networks. A novel intrusion detection system (IDS) using a deep neural network (DNN) is proposed to enhance the security of in-vehicular network. Intrusion detection systems (IDS) have been created to predict and thwart current and future attacks. Neural networks identify and predict unusual activities in the system. In particular, feedforward neural networks with the back propagation training algorithm were employed in this study. We believe that a user leaves a ‘print’ when using the system; a neural network can be used to learn this print and identify each user much like detectives use thumbprints to place people at crime scenes. If a user’s behaviour does not match the ‘print’, the system administrator can be alerted of a possible security breech. A back propagation neural network called NNID (Neural Network Intrusion Detector) was trained in the identification task and tested experimentally on a system of 10 users. The experimental results on real-data showed promising results on detection intrusion systems using neural networks. The system was 96% accurate in detecting unusual activity, with 7% false alarm rate. These results suggest that learning user profiles is an effective way for detecting intrusions.