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Anomaly Detection with ANN and SVM for Telemedicine Networks

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Abstract : In recent years, a wide variety of applications are developed with Support Vector Machines -SVM- methods and Artificial Neural Networks -ANN-. In general, these methods depend on intrusion knowledge databases such as KDD99, ISCX, and CAIDA among others. New classes of detectors are generated by machine learning techniques, trained and tested over network databases. Thereafter, detectors are employed to detect anomalies in network communication scenarios according to user’s connections behavior. The first detector based on training dataset is deployed in different real-world networks with mobile and non-mobile devices to analyze the performance and accuracy over static detection. The vulnerabilities are based on previous work in telemedicine apps that were developed on the research group. This paper presents the differences on detections results between some network scenarios by applying traditional detectors deployed with artificial neural networks and support vector machines.

Keywords : anomaly detection, back-propagation neural networks, network intrusion detection systems, support vector machines
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