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REVIEW OF RESEARCH

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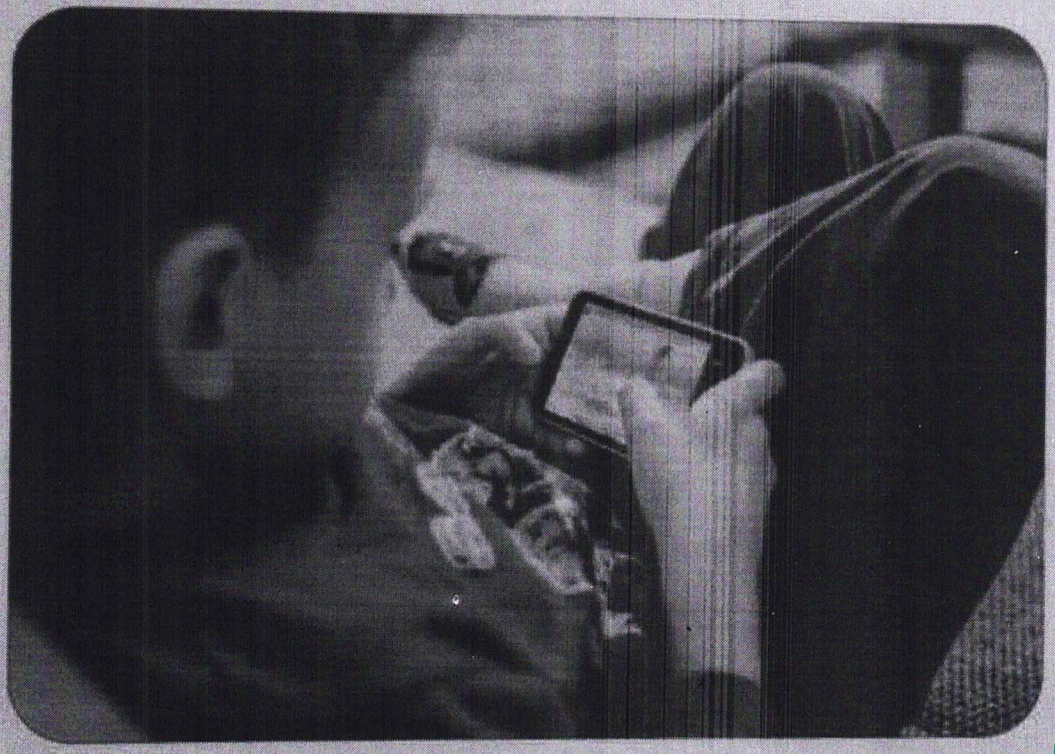
FLAWS AND ADVANTAGES OF MOBILE COMPUTING



Research by

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ABSTRACT:-Mobile computing is human–computer interaction by which a computer is expected to be transported during normal usage. Mobile computing involves mobile communication, mobile hardware... Page No-19

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Detection of Packet Dropping Attack in Mobile Ad Hoc Networks Using Applied Soft Computing Techniques

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ABSTRACT - The mobile networks made revolutionary changes in the communication area. The establishment of MANETS has become common and much needed for smart living world. On other hand the challenges of security issues, QoS, network bandwidth are on front line. By virtue of nature the mobile devices are expected to change their location within the network or to the neighboring networks. While the devices are in mobile state, during the packets transmission, the nodes have to search a new route for the mobile destination device(s). In this process of establishing a route from source to destination via intermediate nodes/hops. In this paper we applied multiple and hybrid soft computing techniques such as neuro fuzzy binary classifiers are the best optimal solution for packet dropping attacks on AODV. The simulation results shows that, the proposed applied soft computing based techniques efficiently detects the packet dropping attacks in MANETS with high positive rates.

Keyword - IDS; MANETS; AODV; FIS; ANFI; LIDS; DCIDS.

I. INTRODUCTION

The advanced technologies in the field of communication turned the Mobile Ad hoc Networks (MANETS) into more attractive. MANETS has been proved as robust and reliable networks, without relying on any pre-established infrastructure. Hence, MANETS are widely deployed in various applications like military zones, at the time of natural calamities, in virtual conferences and in surrounding neighborhoods etc. By virtue of nature, as MANETs are easier to establish. On other hands they are very prone to attack, when compared to wired networks. This is due to wireless links, non-centralized points, dynamic topologies [1] and random appearing and disappearing of the nodes in neighborhoods. Though the security features like various encryption methods and authentication techniques could not eliminate the attacks completely. Hence these security features are not good enough feasible solutions for mobile ad hoc networks.

An Intrusion Detection System (IDS) is responsible for monitoring the activities of malicious or legitimate (normal) systems in a given environment [2]. Basically the decision is made availability of information source, system integrity and confidentiality. The system information is collected by IDS. The detector in IDS will process the data and then makes the decision, by evaluating the possibility for consideration of intrusion [3][4]. Many soft computing techniques have been applied to intrusion detection field [5][6].

An intelligent system can be constructed by using the soft computing technique which parallels the equivalence of human intelligence both in learning and reasoning in a particular environment of uncertainty and imprecision [7]. Soft computing techniques involves several computing paradigms, fuzzy Sets, simulated annealing, neural networks, genetic algorithms, approximate reasoning etc. [8]. This paper focused on novel IDS by the various techniques involved in Soft Computing in Mobile Ad hoc Networks. The proposed system is based on neuro fuzzy classifier [9] in binary form [10][4]. Here Ad hoc On Demand Distance Vector routing protocol (AODV) [11] is used to detect the Packet dropping attacks in MANETs.

II. FUZZY AND NEUROFUZZY

Fuzzy logic is a mathematical based robust soft computing method. It deals with the interface morphology that enables approximations rather than values. The use of approximates is important because, human logical thinking or reasoning capabilities itself is approximated. if-then-else based fuzzy rules can specify the every situation in the network for detecting the intrusions or attacks.

Fuzzy Inference System (FIS): Is based on fuzzy rules for taking the decisions towards fuzzy reasoning. A FIS is a system that uses fuzzy set theory to map inputs (*features* in the case of fuzzy classification) to outputs (*classes* in the case of fuzzy classification).

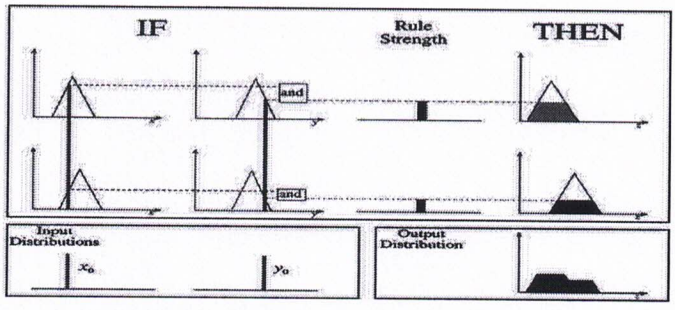

Fig 1: Mamdani Fuzzy Model [12].

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Analysis of single vendor – multi buyer Consignment Inventory

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Abstract: Some significant strategies or practices for streamlining inventory along the supply chain include Consignment models. This paper describes the benefits of Consignment Policy inventory models of single vendor – multi buyer model which is view as a classification of divergent supply chain with end to multi end case which is a distinctive flavor of Vendor Managed Inventory. The change of ownership commences during pull system at which the payment is made to vendor. It evaluates minimum joint total expected cost of vendor and buyer, simultaneously optimise quantitative decision variables. Numerical examples are presented to illustrate the benefit of the proposed strategies and the effects of changes on the cost and parameters are studied.

Keywords *- Consignment Policy, Delay delivery, Information sharing.*

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Fatigue Analysis and Life predictions of Forged steel and Powder Metal Connecting Rods

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Abstract : The report investigates on fatigue behavior of forged steel connecting rods. They must be capable of transmitting axial tension and compression loads. Altair Hyper works software is used for applying tension and compression loads, Altair Hyper mesh for preprocessing; Altair Radioss for solving tension and compression analysis at the same time fatigue analysis for checking the life of the material based on tension and compression condition are solved. Conclusion is based on the result of material life. Modeling incorporated three-dimensional geometry, tension and compression loading, and symmetry conditions. 3-D model geometry was developed in CATIA V5R19. These analyses were performed iteratively at different element lengths until the solution obtained appropriate accuracy. Convergences of stresses were observed, as the mesh size was successively refined. The element size of 1.27 mm was finally considered. The result obtained were discussed and reported.

Keywords *- forged steel, connecting rods Altair Hyper works element size.*

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