

SEMINAR REPORT

**“Secured node detection technique based on artificial
neural network for wireless sensor network”**

A SEMINAR PRESENTED BY **ANAGHA P**

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UNIVERSITY OF CALICUT

CENTRE FOR COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

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CERTIFICATE

This is to certify that the seminar entitled “Secured node detection technique based on artificial neural network for wireless sensor network” is a bonafide record of the work done by **ANAGHA P (Reg No: VAAVMCA002)** of Second Semester MCA student in the Centre for Computer Science and Information Technology, VADAKARA for the academic year 2021-2023 in partial fulfillment for the award of the degree of **Master of Computer Application** of the University of Calicut

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DECLARATION

I hereby declare that the seminar work entitled “Secured node detection technique based on artificial neural network for wireless sensor network” is a record of original work done by me under the supervision and guidance of **Mrs.AISWARYA RAJAN K K** in CCSIT VADAKARA.The seminar report is submitted on partial fulfilment of the requirement for the award of the degree **Master of Computer Application(MCA)** during the period of study at Centre for Computer Science and Information Technology

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sensor network

ABSTRACT

The wireless sensor network is becoming the most popular network in the last recent years as it can measure the environmental conditions and send them to process purposes. Many vital challenges face the deployment of WSNs such as energy consumption and security issues. Various attacks could be subjects against WSNs and cause damage either in the stability of communication or in the destruction of the sensitive data. Thus, the demands of intrusion detection-based energy-efficient techniques rise dramatically as the network deployment becomes vast and complicated. Qualnet simulation is used to measure the performance of the networks. This paper aims to optimize the energy-based intrusion detection technique using the artificial neural network by using MATLAB Simulink. The results show how the optimized method based on the biological nervous systems improves intrusion detection in WSN. In addition to that, the unsecured nodes are affected the network performance negatively and trouble its behavior. The regress analysis for both methods detects the variations when all nodes are secured and when some are unsecured. Thus, Node detection based on packet delivery ratio and energy consumption could efficiently be implemented in an artificial neural network.

TABLE OF CONTENTS

1. INTRODUCTION	01
2. ARTIFICIAL NEURAL NETWORK	03
3. WIRELESS SENSOR NETWORK	04
4. RESEARCH METHOD	06
5. SIMULATION SCENARIOS AND PARAMETERS	08
6. RESULTS AND DISCUSSIONS	10
6.1. PERFORMANCE EVALUATION	11
a. PACKET DELIVERY RATIO	
b. ENERGY CONSUMPTION	
6.2. ARTIFICIAL NEURAL NETWORK BASED ON PDR.....	13
7. ARTIFICIAL NEURAL NETWORK BASED ON ENERGY CONSUMPTION.....	17
8. CONCLUSION.....	21
9. REFERENCES	22