SEMINAR REPORT

"Secured node detection technique based on artificial neural network for wireless sensor network"

A SEMINAR PRESENTED BY **ANAGHA P**

REG NO:VAAVMCA002

MASTER OF COMPUTER APPLICATION

2021-2023

UNIVERSITY OF CALICUT

CENTREFORCOMPUTERSCIENCEANDINFORMATIONTECHNOLOGY

VATAKARA

UNIVERSITY OF CALICUT

CENTREFORCOMPUTERSCIENCEANDINFORMATIONTECHNOLOGY VATAKARA

CERTIFICATE

This is to certify that the seminar entitled "Secured node detection technique based on arificial 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

Mrs AISWARYARAJANKK   **Mrs SWAPNAGNAIR**

Seminar Coordinator   Associate Coordinator

Assistant professor   CCSIT VADAKARA

CCSIT VADAKARA

ACKNOWLEDGEMENT

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

ANAGHA P

Secured node detection technique based on artificial neural network for wireless 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 som 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