**A Project Report**

On

**PERFORMANCE EVALUATION AND PREVENTION OF BLACK HOLE ATTACK IN MANET**

Submitted for partial fulfilment of the requirements for the award of the degree

of

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**BY**

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**CERTIFICATE**

This is to certify that the project work entitled "Performance EvaluationAnd Detection Of Black Hole Attack In MANET" submitted by Paruchuri Sumanth, 1601-14-733-115 and Gundu Vamshi Krishna, 1601-14-733-116 in partial fulfilment of requirements for the award of degree of Bachelor of Engineering in Computer Science and Engineering as specialization is a record of the bonafide work carried out under the supervision of Ms P.Vimala Manohara Ruth, Assistant Professor, Dept. of CSE and this has not been submitted to any other University or Institute for award of Degree or Diploma.

Project Guide Head of the Dept

**Ms P.Vimala Manohara Ruth Dr.M.Swamy Das**

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**DECLARATION**

We hereby declare that the research work entitled " Performance Evaluation and Prevention of Black Hole Attack in MANET " is original and bonafide work carried out by us as a part of fulfilment for Bachelor of Engineering in Computer Science and Engineering, Chaitanya Bharathi Institute of Technology, Gandipet, Hyderabad, under the guidance of Ms P.Vimala Manohara Ruth Assistant Professor, Department of CSE, CBIT.

No part of the project work is copied from books/journals/internet and wherever the partition is taken, the same has been duly referred in the text. The report is based on the project work done entirely by us and not copied from any other source.



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**ABSTRACT**

A mobile ad hoc network MANET is a collection of mobile nodes in which the nodes can communicate without the need of any access point or infrastructure. The wireless nodes can dynamically form a network to exchange information among them without making use of any existing network infrastructure. The mobile hosts are free to move dynamically and act as routers.

Security is a highly challenging issue in ad hoc networks. Understanding possible forms of attacks is the first step towards developing good security solutions. The presence of malicious nodes will affect the performance and reliability of the network. In Black hole attack, nodes which are called malicious will drop the packet instead of forwarding towards destination. Thus, a Black hole attack degrades the performance of the network.

In this project, The performance metrics of a MANET such as Throughput, Packet delivery ratio, packet loss are evaluated when there is no malicious node, single malicious node which leads to a single black hole and multiple malicious nodes which leads to multiple black hole attacks, compare the metrics with no blackhole, single black hole and multiple blackholes and draw graphs for them, The moment of nodes of MANET in NAM, number of packets consumed by black holes is shown. And proposed a solution using Fake routing protocol to prevent black hole attacks imposed by both single and multiple black hole nodes. Simulation’s results show that the proposed protocol provides better performance in terms of packet delivery, throughput, packet loss in presence of Black holes, and helps in prevention of Black hole attack.