

**Title:** A Novel Scheme for Prevention and Detection of Black Hole & Gray Hole Attack in VANET Network

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## Abstract:

**Background and Objective:** VANET is an application used for the intelligent transportation system which improves traffic safety as well as its efficiency. We have reviewed the patents related to vehicular Ad-Hoc Network and their issue. To avoid road accidents a lot of information we need in advance. This paper has developed a framework which minimizes the possibilities of the black hole attack in VANET. According to us, there are two possible solutions for this purpose. The first is to see alternative routes for the same destination. The second compromises of exploiting the packet header's packet sequence number which is always included in each packet header. The second procedure is able to verify that 72% to 96% of route which is discovered depends on pause time  $t$  which is the minimum time for delay in the packet transition in the network when AODV routing protocol is used for packet transitions.

**Methods:** In this approach we used twenty five nodes. In which two are source nodes, two are destination nodes and four are invaders. We analysed the effects of these invaders on the network and studied their behavior on the network on different time-period to analyse if invader is black hole invader or the invader is Gray hole. To calculate send packets, received packets, packet drop, packet drop fraction, end-to-end delay, AWK script is used.

**Results and Discussion:** Through this work we simulate the result in the time frame of 100 ms manually and on graph the time frame is not available so the time frame is processed by trace graph accordingly. In the simulation we took 25 nodes initially and start the procedure to send the packets over nodes. At first packets are broadcasted to every node to find out the location of nodes and packets are dropped once the path is established and then the packets are transferred to the path established over network.

**Conclusion:** VANET is seen as the future of the network, and the need to secure it is crucial for the safety of it from various attacks. A secured VANET is essential for the future of the network and also currently acquiring this network will also boost the possibility of VANET to develop and reduce the time of its implementation in the real world scenarios. In this work, we have designed a framework and analyzed it for the possible attacks by the black hole, and Gray Hole attacks and also effects of the attacks are recorded and studied by practically using it. After analyzing it's concluded that the attacks can be implemented and detected over the network.

# Recent Advances in Computer Science and Communications

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**Title:** An Optimal Framework for Spatial Query Optimization Using Hadoop in Big Data Analytics

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## Abstract:

**Background and Objective:** Spatial queries frequently used in Hadoop for significant data process. However, vast and massive size of spatial information makes it difficult to process the spatial inquiries proficiently, so they utilized the Hadoop system for process the Big Data. Boolean Queries & Geometry Boolean Spatial Data for Query Optimization using Hadoop System are used. In this paper, a lightweight and adaptable spatial data index for big data have discussed, which have used to process in Hadoop frameworks. Results demonstrate the proficiency and adequacy of spatial ordering system for various spatial inquiries.

**Methods:** In this section, the different type of approaches are used which helps to understand the procedure to develop an efficient system by involving the methods like efficient and scalable method for processing Top-k spatial Boolean Queries, Efficient query processing in Geographic web search engines. Geographic search engine query processing combines text and spatial data processing technique & Top-k spatial preference Queries. In this work, the implementation of all the methods is done for comparative analysis.

**Results and Discussion:** The execution of algorithm gives results which show the difference of performance over different data types. Three different graphs are presented here based on the different data inputs indexing and data types. Results show that when the number of rows to be executed increases the performance of geohash decreases, while the crucial point for change in performance of execution is not visible due to sudden hike in number of rows returned.

**Conclusion:** The query processing have discussed in geographic web search engines. In this work a general framework for ranking search results based on a combination of textual and spatial criteria, and proposed several algorithms for efficiently executing ranked queries on very large collections have discussed. The integrated of proposed algorithms into an existing high-performance search engine query processor and works on evaluating them on a large data set and realistic geographic queries. The results shows that in many cases geographic query processing can be performed at about the same level of efficiency as text-only queries.

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**Title:** Design and Analysis of Optimization and Tuning in Data Warehouses Using Bitmap Indexes

**VOLUME:** 13

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**Abstract:** Introduction: An Index for Bitmaps is a special category that uses bitmaps or bit arrays in a database. Apache stores a bitmap for every index key in a bitmap file. Each main index stores multi-line pointers. Bitmap database management requires several time, but bitmap indexes are only appropriate for tables or tables that have occasionally updates.

Method: Each bit of the map corresponds to a possible row id. If the bit is 1, it means that the row id contains this key value. An internal Oracle function converts the bit position to the corresponding row id, so that bitmap indexes offer the same functionality as B-tree indexes, despite the different internal representation. If the number of different values of the index is small, then the bitmap index will become very efficient in terms of the use of physical space.

Result: Oracle involves the following compression features which are possible during the various operations in the database. This means we can compress the data on the following modes. There are several types of backup is possible in the database: • Whole Backup or partial backup • Full Backup or incremental backup • Cold or consistent backup • Hot or inconsistent backup

Discussion: We study the current compression technologies, and add the compression of the bitmap index via the data pump. The bitmap index is more effective, for a minimum unique value, according to conventional wisdom. But it doesn't need either a bitmap index built on a high degree of cardinality or a low degree of cardinality through the data pump. In this paper, after deletion of documents, we propose data pump utility for releasing disk space in database. Bitmap index points the old location even after the table deletes information, this function does not release disk space.

Conclusion: In this paper, we present the experiment evaluation of Bitmap Index Compression and release occupied disk space of database objects like table and indexes after deletion of records. Industrial database frequently allows the bulk data insertion and deletion. In database deletion of millions records from the table doesn't release occupied disk space immediately. Next steps in our research will be to release the disk space along with the deletion of records.



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## A hybrid cluster technique for improving the efficiency of colour image segmentation

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Abstract PDF

### Abstract

Image segmentation is a wide area for researching, and in many applications, segmentation is applied for finding the distinct group in the feature space. It separates the data into different regions or clusters, and each one is homogeneous. The current algorithm, which is proposed approach for noise reduction, eliminates most of the noise from the input image. This noise concerns to cut boundary of the noise full image. The result shows that it is very efficient in segmenting the image and reduces the time complexity. The proposed algorithm can be used in object deduction or in object analysing in image processing. The segmentation of image proceeds by using combination of different segmenting approach in 3-D RGB colour-space. Clarity of the output segmented image is better in comparison to other segmentation techniques of the image. Clarity of the output image is depending on the number of clusters used.

**Keywords:** data mining, image processing, classification, image segmentation, clustering, k-mean cluster

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