CERTIFICATE

DELHI COLLEGE OF ENGINEERING
BAWANA ROAD, DELHI – 110042

Date: _____

This is to certify that project entitled "**Feature Extraction & Analysis in Content Based Image Retrieval**" has been completed by **Chesta Agarwal** in partial fulfilment of the requirement of **Master of Engineering** in **Computer Technology & Application**.

This is an authentic work carried out by her under my guidance & the matter embodied in this research work has not been submitted earlier to the best of my knowledge and belief.

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ABSTRACT

Feature Extraction is the image processing phase where the characteristics of image are fetched and processed to retrieve results from the image database. Feature Extraction is the basic step followed for the pattern recognition process and other processes of image processing like image understanding. Pattern recognition is the act of taking in raw data and classifying it into predefined categories using statistical and empirical methods.

Content Based Image Retrieval (CBIR) is one of the widely used applications of pattern recognition for finding images from vast and un-annotated image database. In CBIR images are indexed on the basis of low-level features, such as color, texture, and shape, which can automatically be derived from the visual content of the images. This project discusses various techniques and algorithms that are used to extract these image features from the visual content of the images. The various similarity measures are used to identify the closely associated patterns. These methods compute the distance between the features generated for different patterns and identify the closely related patterns and these patterns are then generated as the result.

Image Understanding is the discipline that concerns the interpretation of an image and analysis of the image to give a decision about the image and the actions represented in it. Apart from the decision making process, it might include several sub processes like object identification, image retrieval and recognition of patterns based on their features. This project uses image understanding to analyse the input satellite images and identify the un-authorised terrorist airbase camps set at critical locations of security interests to the nation.

In this project we have aimed to propose a system, PRISM, which performs the above described Image Processing applications. PRISM, a Pattern Recognition & Image analysiS Machine would perform the task of pattern recognition and image analysis using feature extraction, hence the name.