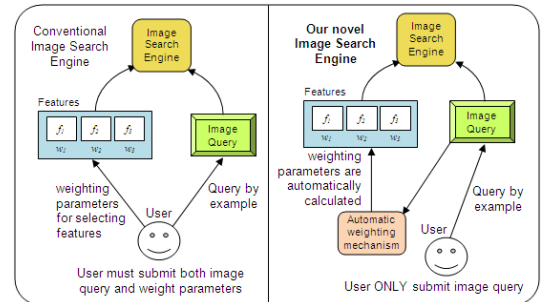
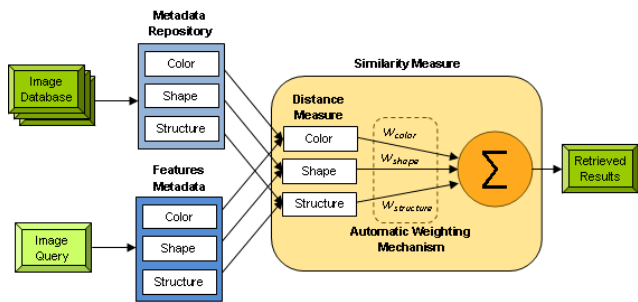


IMAGE RETRIEVAL SYSTEMS WITH 3D-COLOR VECTOR QUANTIZATION AND CLUSTER BASED SHAPE AND STRUCTURE FEATURE EXTRACTION

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System Design



Color Feature Extraction

- Uniformly representing RGB in certain positions of RGB vector space
- Quantization size: 64R, 64G, 64B, in 125 positions

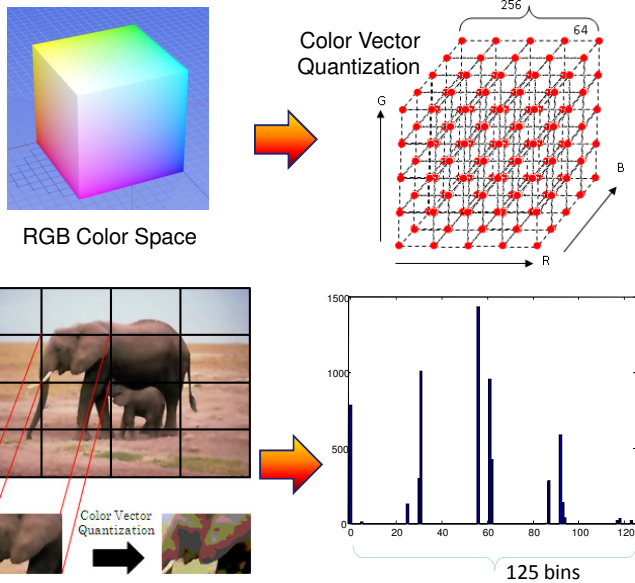
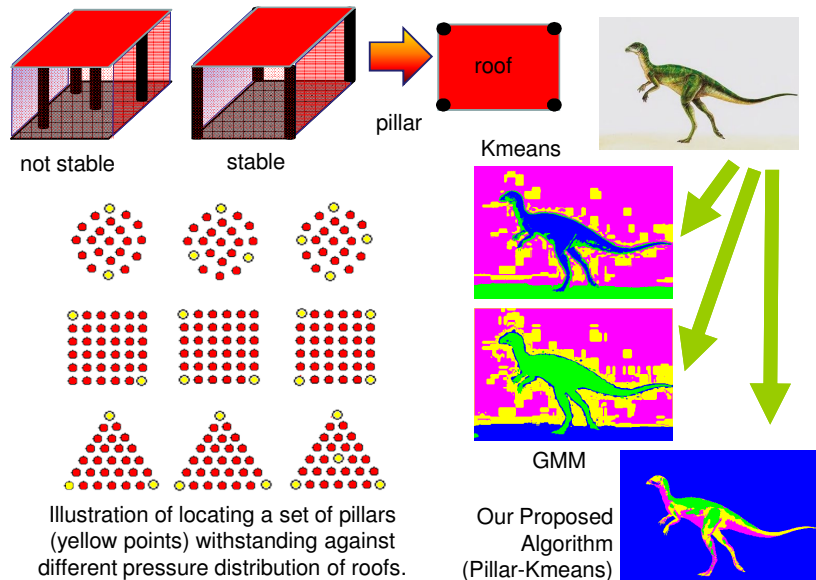


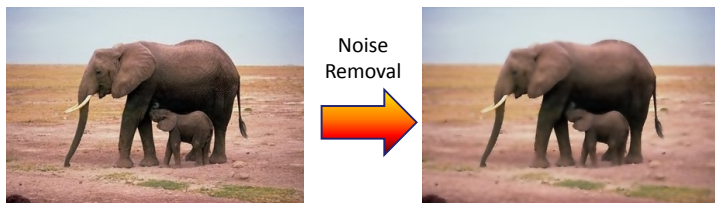
Image Segmentation

- Accelerating the image segmentation time and improving the precision using Pillar Algorithm
- Pillar Algorithm \rightarrow K-means optimization, inspired by pillars' placement to withstand against the distribution pressure of a roof in order to stabilizing a house or building



Shape & Structure Feature Extraction

- Applying our proposed image segmentation algorithm using Pillar algorithm
- Extracting shape properties using edge detection and identification of connected component labeling
- Extracting structure feature with domain frequency using Curvelet transformation



Shape Feature Extraction

Shape properties measurement

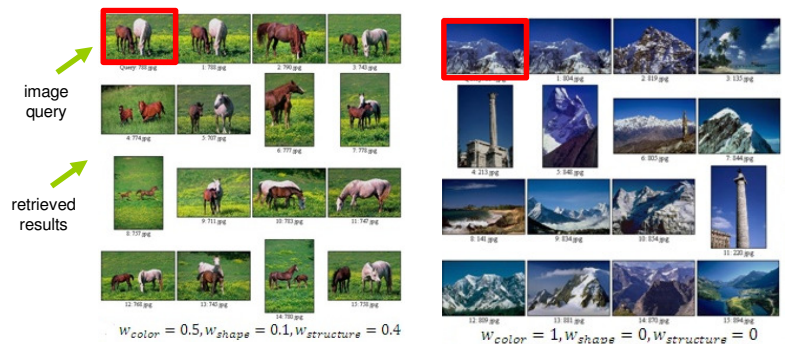
Image Segmentation

Structure Feature Extraction

Curvelet Transformation



Experimental Results



Dataset consists of 1000 COREL image collection

