

# **IMAGE COMPRESSION WITH EFFICIENT CODEBOOK INITIALIZATION USING LBG- OPTIMIZATION ALGORITHM**

**MANOJ KUMAR**

Assistant Professor, Department of PGDCA, Roorkee, Haridwar, Uttarakhand, India

## **ABSTRACT**

In this paper we present a very simple and yet effective algorithm to generate good codebook. In general VQ codebook generation algorithm focus on solving two problem(i)To reduce the computational complexity of code words search the building the codebook. (ii) Extra Computational overhead to calculate the measurement of codeword in codebooks..in this paper, a novel VQ codebook generation method based on the Linde-Buzo –Gray (LBG) is presented. VQ based image compression technique has four major steps namely(i) Codebook design (ii)VQ encoding process (iii)VQ decoding process and (iv) Optimization process. The performance of VQ based image compression technique depends upon the constructed codebook. Novel VQ algorithm is proposed in this paper which needs less execution time and less number of iterations to converge than conventional VQ Linde-Buzo-Gray (LBG) algorithm.

**KEYWORDS:** Image Compression, Codebook Generation, LBG Algorithm, Optimization