Engineering and Technology

INVARIANT IMAGE WATERMARKING USING TCHEBICHEF MOMENTS

A. Karthik[1], P. Madhuri[2] and Dr. A. Venkataramana[3]

[1]B.Tech II year ECE, ACE Engineering College, Ghatkesar, Medchal Dist, Telangana, Email: karthik.avaru1@gmail.com

[2]B.Tech IV year CSE, Keshav Memorial Institute of Technology, Narayanguda, Hyderabad, Telangana, Email: pendemmadhuri3@gmail.com

[3]Lecturer in ECE, Government Polytechnic, Nalgonda-508001, Telangana, Email: dravaruramana@gmail.com

Abstract

Digital image watermarking is a method used for image authentication and copyright protection. Watermark is a signal embedded into the host image to be later detected or extracted. This paper presents a brief review on various moment based image watermarking methods. Further, invariant image watermarking method using Tchebichef moments is presented in detail. The watermark signal is obtained by performing image reconstruction with the modified Tchebichef moments of the original image. The watermarked image is obtained by adding the original image with the watermark signal. Tchebichef moment invariants which are invariant to image scaling, rotation and translation are used as features for obtaining invariant image watermark. Simulation results are carried out by considering standard images. From the simulation results, it is observed that this method is robust with respect to geometric distortions like rotation, scale, translation, median filtering and Gaussian noise addition as well as affine transformations.

Keywords: *Moments, Tchebichef Moment Invariants, Image Watermarking,*