

FACE RECOGNITION BY USING REAL-TIME JOINT TRANSFORM CORRELATOR WITH COMPRESSED REFERENCE IMAGES

Joewono Widjaja and Ubon Suripon

*School of Laser Technology and Photonics, Institute of Science,
Suranaree University of Technology, Nakhon Ratchasima 30000, Thailand*

ABSTRACT: A new optical method for implementing face recognition by using real-time joint transform correlator with compressed reference images is proposed to improve processing time and to solve storage problem. The compression is based on lossy Joint Photographic Experts Group (JPEG) scheme. The effect of compressing reference on the face recognition is quantitatively studied by using two different contrasts of human face image. The simulation results show that the face recognition by using joint transform correlator with compressed high-contrast human face as the reference is more robust to both noise and contrast difference than that of the low-contrast compressed reference.

KEYWORDS: optical face recognition, joint transform correlator, correlation performance, JPEG image compression