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(54) Title of the invention : ENHANCED FINGERPRINT AUTHENTICATION SYSTEM BY GABOR FILTER AND CLASSIFICATION DICTIONARIES LEARNING

(51) International classification	:G06K 9/00	(71)**Name of Applicant :** 1)**Dr.M.Srinivasa Rao** Address of Applicant :Professor, Department of CSE, Lakireddy Bali Reddy College of Engineering (A), Mylavaram, Krishna District, Andhra Pradesh, India. Pin Code:521230 Andhra Pradesh India 2)**Ms.Shaik Mohammad Ayesha** 3)**Dr.R.Neelaveni** 4)**Dr.Tarun Kumar** 5)**Ms.Rachna Behl** 6)**Dr.Indu Kashyap** 7)**Dr.D.Shanthi** 8)**Ms.Tamminina Ammannamma** 9)**Mr.Venkata Srinivasu Veesam** 10)**Dr.Ravindra Raman Cholla** (72)**Name of Inventor :** 1)**Dr.M.Srinivasa Rao** 2)**Ms.Shaik Mohammad Ayesha** 3)**Dr.R.Neelaveni** 4)**Dr.Tarun Kumar** 5)**Ms.Rachna Behl** 6)**Dr.Indu Kashyap** 7)**Dr.D.Shanthi** 8)**Ms.Tamminina Ammannamma** 9)**Mr.Venkata Srinivasu Veesam** 10)**Dr.Ravindra Raman Cholla**
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(57) Abstract :

Secure circumstances can be provided in Secure Authentication System by the Biometric Authentication, and by the different authentication methods such as password, PIN, Irish authentication, Multi-factor authentication, Token and certificate based authentication. The present invention disclosed here in is Enhanced Fingerprint Authentication System by Gabor Filter and Classification Dictionaries Learning comprising of: Input Image (201); Patch Extraction (202); Gabor Filter (203); Image Binarization (204); Morphological Operation (205); SIFT Feature Extraction (206); Classification (207); Performance Estimators (208); provides the Enhanced fingerprint for Authentication System by Gabor Filter and Classification Dictionaries Learning to reduce the unauthorized person entry into the secure circumstances. Biometric Authentication is unique due to the unique Fingerprint. The person entry is authorized into the secure circumstances after Fingerprint Image is processed and matched. The invention disclosed here uses the Gabor Filter for enhancing the Fingerprint Images and Classification Dictionaries Learning is for matching the Fingerprint. The state of art invention disclosed here uses Filter in combination with the Machine Learning approach in Authentication System.

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