



Facial Recognition technology is comprised of three basic sciences, namely, face detection, feature point extraction, and face matching technology.

Face detection technology detects the *position of the face* within an image, while feature extraction technology finds the *position of facial feature points*, such as the pupil, sub nasal point, mouth corners, etc. Face matching technology determines the *identity* of the detected face.

The human face plays an important role in our society interaction, conveying people's identity. Using the human face as a key to security, biometric face recognition has potential for a wide variety of applications in both law enforcement and non-law enforcement as well as Mental Institutes, facial recognition can monitor patients 24 hours a day, alerting staff if an individual strays into areas which are unsafe or could endanger other patients / staff. The software can monitor and track staff for time and attendance and inform the control room of any unauthorised personnel who enter the building.



Compared with other biometrics systems (fingerprint / palm print and iris scanning), facial recognition has distinct advantages because of its non-contact process. Face images can be captured from a distance without touching the person being identified, thus identification does not require interaction with a person, in addition, face recognition services as a crime deterrent because face images that have been recorded and archived can later help identify a person.

Features

Fast & Accurate face recognition

- GLVQ based multiple-matching face detection.
- Combination of eye zone extraction and facial recognition.
- Recognition based on neural network technology
- Short processing time, high recognition rate
- Recognition regardless of vantage point and facial changes (glasses, beard, and expression)

Reliable Matching

- Optimal results through Adaptive Regional Blend Matching (ARBM) technology
- Extraction of similar facial areas
- Identification and authentication based on individual facial features
- Easy adaptation to existing IT systems
- Flexible integration into many types of video monitoring systems.
- Supporting diverse graphic and video formats as well as live cameras.

Diverse Application Areas

FTL's biometrics face recognition process has a highly diverse range of applications, extending from crime-fighting, border control, to access control for sensitive areas.

Technical Highlights

General Matching Face Detection Method (GMFD)

FTL's face recognition technology utilizes the GMFD method that provides high speed and high accuracy for facial detection and facial features. The main logic for facial recognition within GMFD is a modified Generalized Learning Vector Quantization (GLVQ) algorithm, which searches and selects face area candidates after the generation of potential eye pairs. GLVQ is based on a neural network and is not easily fooled by attempts to conceal identity via the use of caps, hats, sunglasses etc.