Gemalto Cogent LFIS Search and LFIS Search Expert

Gemalto Cogent LFIS Search and LFIS Search Expert are powerful applications to process still images captured from files and videos, as well as, search against a large database of photos or videos.

LFIS Search performs transaction processing for search and enrollment. For easy 3rd party integration, LFIS Search uses Restful web service APIs, providing a simple HTML/ JS based Web UI which can be easily accessed via any web browser and is most suited for use in commercial/customer facing use cases.

LFIS Search Expert provides additional advanced image editing features via the GUI, which allows expert users to enhance low quality images perform comparisons, all while speeding up the search process in order to identify persons of interest. It is well suited for public safety, security and law enforcement agencies.

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FUNCTIONALITY

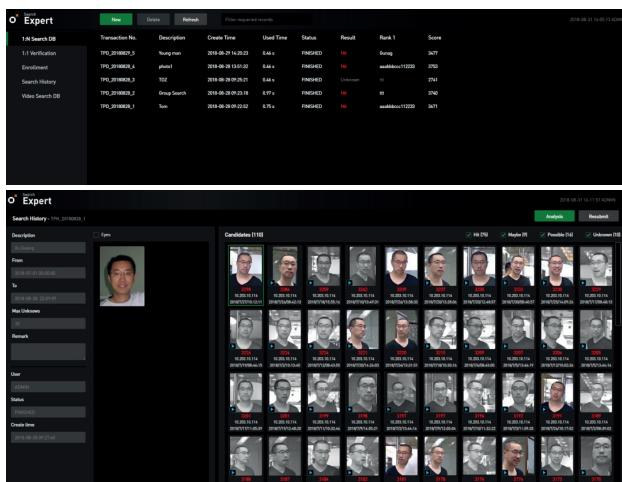### LFIS Search

> Image acquisition from file or video
> One to one photo comparison
> One to many search against LFIS photo database
> Search for a face in the historical database of previously identified faces (log of all the faces identified in videos already processed by LFIS)
> Search faces captured from recorded videos against LFIS photo database
> Configurable matching threshold and management on server, database, and user/subject
> Restful APIs for easy 3rd party integration

LFIS Search Expert

All of the features in LFIS Search plus Image and Video Processing

> Automatic and manual enhancement on image brightness, contrast, sharpness, smoothness, and saturation
> Automatic normalization following ICAO standard
> Automatically mark eyes and modify eye location based on auto-detected location
> Zoom in/out, mirror, flip (upside down), reset, and center face image
> Video processing for face crop, analyze, and review any frame
> Show 2D landmarks on eye, nose, mouth, and eyebrow for better identification and classification of subjects
> Image analysis in overlay mode (horizontal and vertical)

Face Identification

> Show matching scores and highlight those above the hit threshold in red color
> Show search results in a queue which can be sorted and filtered by key word

Enrollment and batch processing

> Quality check for enrollment
> Enrollment into an existing record or create a new record
> Automatic enrollment
> Batch enrollment with threshold based quality control and manual enhancement
> Benchmark transaction to compare a list of photos against LFIS photo database
> Configurable demographics

System and Performance

> LFIS Search can run on Windows or Linux using physical servers or AWS
> High throughput of up to 1000 transactions per second on single server
> Supports multiple image and video formats: BMP, JPG, PNG, AVI, etc.
> Up to 100 million matches (1:N) per second on single server
> Processing a 1hr video in 1 minute is possible on a single server with GPU
> Minimum face size for processing is only 20 pixels between the eyes
> Interoperability with Gemalto Cogent Automated Biometric Identification System (CABIS) by 'sync watch list' function
> Android mobile client allows users to perform a search "on the go"
> Product key management for authorized functions

Standards

> Face algorithm is tested by NIST 2018 on-going and FRVT
> Quality check following ICAO standard

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THALES

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