MERLION AWARDS

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Product Name: Face Recognition in a Crowd System from iOmniscient

Company Name: Infocom& Security Systems Pte Ltd

Booth Number: D05

Description: 500 words

Face recognition systems have been used traditionally for access control in one-to-one or one-to-many situations. Like other biometric technologies, such as fingerprint or iris matching, these face recognition systems require the person to be co-operative so their biometric characteristics can be recorded and compared. Traditional face recognition systems also require high resolution images and controlled environments for identification. The images used for such systems can only be used for a limited period of time since new images are required as the individual ages.

Traditional face recognition systems cannot cope with the requirements in surveillance. For this reason, iOmniscient, the world leader in Video Analytics renowned for its patented capability of coping with crowded scenes, has developed the "Face Recognition in a Crowd" System. iOmniscient's Face Recognition System is the first many-to-many face recognition system which can accurately recognize faces by comparing them against one or more databaseswhile operating in crowded and complex scenes.

Unlike other products, iOmniscient's System excels in uncontrolled environments with variable lighting and continuous movement. The system operates with low resolution cameras at a distance and only requires 22 pixels between the eyes for accurate identification(and it operates with as little as 12 pixels while still achieving a reasonable level of accuracy). This compares with a requirement of between 90 and 300 pixels for traditional systems.

This means that customers can often use iOmniscient'ssystem with their existing security cameras and they do not need to purchase new high resolution cameras which can make the whole system more expensive.

For surveillance, it is important for detection and recognition to be done covertly. iOmniscient's intelligent system can cope with variable face angles(as long as both eyes are visible), so the person being identified does not have to look directly at the camera. This is important when attempting to recognize individuals without them being aware of the process. Normally criminals will not want to be identified and they would try their best to avoid looking directly at the camera. This is exactly the situation that iOmniscient's Face Recognition system is designed to cope with.

The Face Recognition in a crowd system can be useful in a variety of applications. It can be used by shopping malls and airports to compare people in their facilities against black lists without having to force them through an access control gate. It can be used by luxury hotels to recognize VIP guests as they walk in before they even reach the reception desk. The Chinese military is using the system in its military factories whereiOmniscient'siQ-Series products are used for protecting stock in their

warehouses. It can detect if an item is removed and then the Face Recognition System authenticates the identity of the person who has taken it.

iOmniscient's Face Recognition in a Crowd System is integrated with the full range of iOmniscient'siQ-Series products, (such as its License Plate Recognition System - to match drivers and vehicles or to recognize a person involved in an event).

Judging Criteria:

Product innovation - iOmniscient's Face Recognition in a Crowd System is the world's first many-to-many system which can accurately recognize individuals in complex real world scenes. This allows face recognition technology to be used for advanced surveillance.

Design - The architecture is Open (works with any camera), scalable and distributed. It is tightly integrated with all the other iQ-Series Video Analytic Products and provides an interface to products from any supplier. The real time User Interface and reports are easily adjusted to the needs of different users and it is designed to operate in all the major world languages.

Multiple applications can run using video from the same camera ensuring that the software can indeed be integrated with the overall security system.

Benefits to Consumers –When attempting many-to-many face recognition with a large database and a huge crowd, a human would normally achieve less than 1% accuracy. In contrast, iOmniscient's system can achieve accuracies over80% without special purpose cameras, which gives the operator a reasonable chance of apprehending a criminal or terrorist in an uncontrolled environment.

User-Friendliness of Product:Existing low resolution cameras can be used avoiding the expense of replacing them just for this application. The system can be easily adjusted to the needs of different users.

Significant Unique Features:

Can work in Crowded Scenes

Works in an uncontrolled environment

Requires only 22 pixels between the eyes

Works with variable poses, facial expressions, head coverings and glasses.

Can cope with Variable Lighting