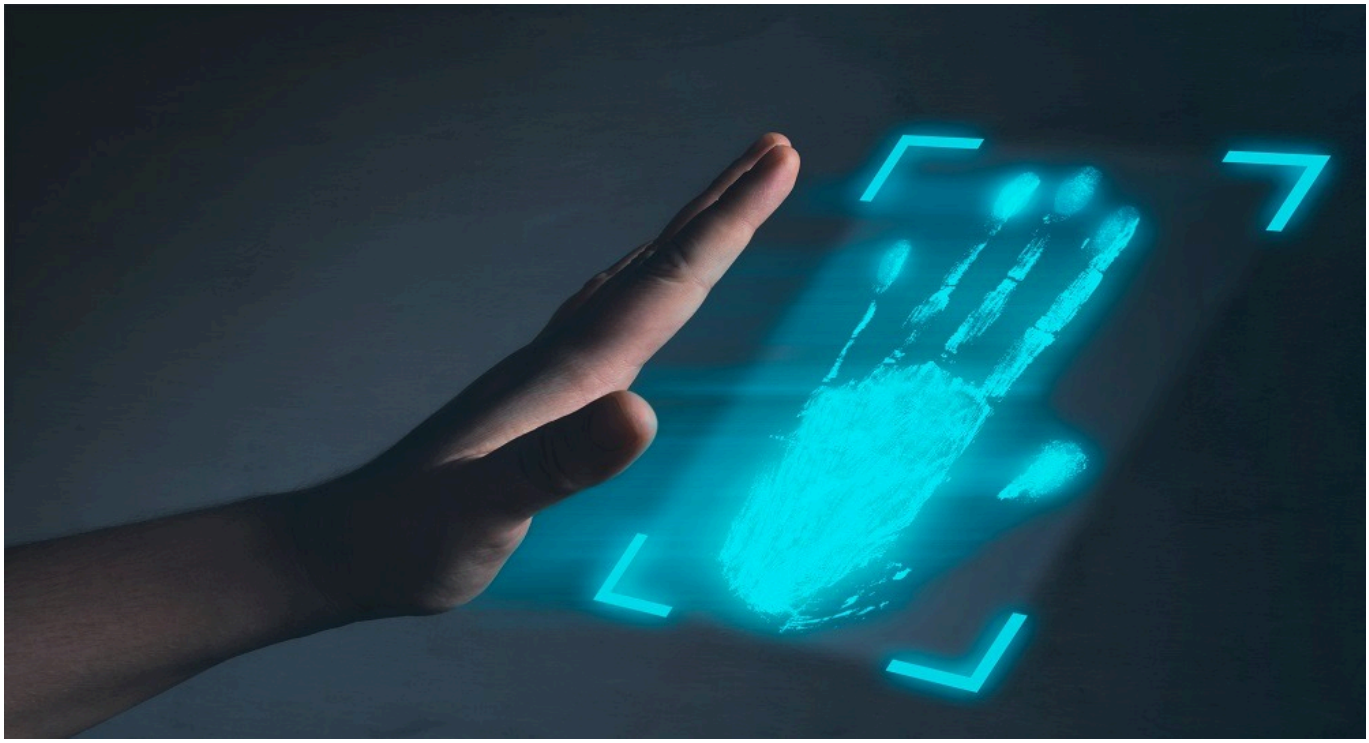
TECH OFFER

Contactless Palm Biometrics For Person Authentication And Identification



KEY INFORMATION

TECHNOLOGY CATEGORY:
Infocomm - Artificial Intelligence
Infocomm - Smart Cities

TECHNOLOGY READINESS LEVEL (TRL): TRL8
COUNTRY: CHINA
ID NUMBER: TO174785

OVERVIEW

In a post-pandemic age, there is a heightened concern about the spread of infectious diseases and other pathogens from traditional biometric enrolment and authentication technologies. As such, much of the industry is moving towards contactless operations for an increasing number of functions. Authentication techniques performed through palmprints are invariant to skin colour, height, changes in facial features, masks or hairstyles, and have the added advantage of being universally unique; even between a twins' hands.

This technology is an Artificial Intelligence (AI) palmprint identification technology that utilises palm features to recognise an individual. Palm features are well-suited for identification purposes as they remain unchanged for life and are therefore ideal replacements for access and identification cards. The technology is backed by palm print and palm vein recognition algorithms, and contactless image acquisition technology that enables easy, hygienic, rapid identity verification and access control in a post-pandemic environment.

TECHNOLOGY FEATURES & SPECIFICATIONS

The techonology has the following features:

- Edge-based processing (2.0 TOPS compute capability)
- Dual RGB and Infrared (IR) cameras with wide-angle fisheye lens (130 degree angle field-of-view makes palm recognition robust and simple)
- Capture and process multi-modal palm features, with authentication in less than 350ms (on a database of 20,000 records)
- Contactless authentication minimises the risk of infectious disease transmission
- Inherent liveness detection (anti-spoofing)
- Privacy-preserving (no images are stored)
- Indoor/outdoor operation with automatically adjusted lighting parameters according to ambient light conditions

POTENTIAL APPLICATIONS

Given that this technology is contactless, it can be used in areas where there is a high volume of human traffic as it is less intrusive as compared to conventional contact methods, while reducing the risk of diseases spreading through touch contact on common surfaces.

Use-cases:

- Visitor management
- Restricted access control
- Identity verification
- Employee clock-in/clock-out

Application areas cover restricted access areas:

- School campus
- Research labs (including but not limited to, bio-safety labs)
- Smart buildings
- Data centers
- Entertainment venues/theme parks

UNIQUE VALUE PROPOSITION

The technology is unique in the following ways (but not limited to):

- Palm vein is a non-surface biological feature that is difficult to be stolen and/or forged. A clear palm vein image requires flowing blood and is therefore inherently anti-counterfeiting in nature; providing evidence of liveness and protecting against spoofing via 2-Dimensinal (2D) images and videos
- Strong privacy protection - palm features are extracted and processed locally for matching, biometric features are further encrypted with secure data protection throughout making it resilient to man-in-the-middle attacks