Individual Identity Verified Through Device-Free, WiFi Based Framework

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ABSTRACT

Researchers at the University of California, Davis have developed a device-free, WiFi based framework that can isolate individual identity, from a small group of users, simply by observing variations in WiFi signals through a user's gait.

FULL DESCRIPTION

There is a growing interest in equipping smart spaces, such as offices and homes, with the ability to track a user's identity and activity without the aid of a smart device. Device-free identification, using WiFi technology, has shown great potential for its use in smart spaces and in its application in device-free monitoring (e.g. measuring steps taken, sleep patterns, etc.). However, these technologies and the related applications rely on the ability to correctly identify individual users which, until now, has remained unsolved.

Researchers at the University of California, Davis have developed a device-free, WiFi based framework that can isolate individual identity, from a small group of users, simply by observing variations in WiFi signals through a user's walking gait. This technology leverages the ubiquitous nature of WiFi technology and can be implemented using off-the-shelf WiFi hardware.

APPLICATIONS

- Personal identification of a user within a smart space such as a home or office

FEATURES/BENEFITS

- Functions without the use of a smart device
- Does not require proactive action from the user (e.g. fingerprint scan, etc.)
- Recognizes a user's unique gait and personal identity with the user walking only 2-3 meters

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,045,717	08/14/2018	2016-813

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Signal Space Based Navigation
- Sensor-Assisted Facial Authentication System For Smartphones
- Energy Efficient Trigger Word Detection via Accelerometer Data
- Adversarial Resilient Malware Detector Based on Randomization

CONTACT

Michael M. Mueller
mmmueller@ucdavis.edu
tel: .



INVENTORS

- Mohapatra, Prasant
- Pathak, Parth H.
- Zeng, Yunze

OTHER INFORMATION

KEYWORDS

person identification, smart spaces, smart space, radio-frequency sensing, remote activity monitoring, individual, id, WiFi

CATEGORIZED AS

- **Communications**
  - Wireless
- **Environment**
  - Sensing
- **Imaging**
  - Other
  - Security
- **Sensors & Instrumentation**
  - Environmental Sensors
  - Position sensors

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2016-813-0

University of California, Davis
Technology Transfer Office
1 Shields Avenue, Mrak Hall 4th Floor,
Davis,CA 95616

Tel: 530.754.8649
techtransfer@ucdavis.edu
https://research.ucdavis.edu/technology-transfer/
Fax: 530.754.7620

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