

# AI-driven Voice Verification with IDVoice™



Voice verification is a form of biometric authentication that uses a person's voice as a uniquely identifying characteristic. With advances in the science of biometrics, including AI and machine learning algorithms, voice verification technology has become one of the most accurate and secure ways to authenticate a user's identity – without the frustration of passwords, pins or knowledge-based challenge questions.

## How it Works

Voice verification matches a user's voice against an enrolled voiceprint. The first way to do this is with text dependent voice verification, where the person speaks a specific "passphrase" consisting of two to three words. The second method is text independent voice verification whereby the user can say anything, enabling authentication to quickly happen in the background during the user's normal interaction with an agent, IVR or application. Voiceprints are stored on your site or in your cloud, in an encrypted format and isolated from other identifiable customer information.



**Industry-leading biometric engine delivers unmatched speed and accuracy**



**Works with text-dependent or text-independent ("say anything") speech**



**Biometric data is encrypted and stored on your site, in your cloud, or on the user's device**

## IDVoice™ by ID R&D

IDVoice enables both text dependent and text independent voice verification. Deep expertise and focused R&D results in an AI-based voice biometric engine that leads the industry in accuracy and speed.

ID R&D uses an innovative Convolutional Neural Network and is first to market with an advanced modified x-Vector approach for feature extraction. The result is unmatched performance including a 10x speed improvement over i-Vector solutions.

- High accuracy with Equal Error Rates as low as 0.3%
- SDK size - as small as 2MB
- Matching time - 0.00003 seconds
- Template size - 1.6 kb
- Methods - GMM-MAP and modified x-Vectors

- Integrates with mobile, web, telephone channels
- Works with ultra short utterances – with as little as 2 seconds of audio
- Small footprint
- Language independence
- Noise tolerance for accuracy in a range of environmental conditions
- Deployment on device or on server (Private Cloud)
- Use with IDLive™ Voice for superior anti-spoofing detection

## Did You Know?

There are 72 body parts responsible for the creation of human speech. Each of these parts are uniquely sized and shaped, resulting in the sound of a person. Voice biometrics extracts features that represent phonemes (distinct units of sound) and how they are manifested in the shape of the vocal tract.



# We're improving deployment, performance and the user experience.

**Cross-channel enrollment.** Currently, most voice biometric solutions require separate enrollments for each channel, whether native mobile applications, web applications, or call center applications. IDVoice removes this barrier by making it easy for developers to account for different channels automatically. No separate enrollments required.

**Signal to Noise calculator and Voice Activity Detector.** Improved noise robustness and activity detection results in higher accuracy.

**Speaker Diarization.** Separates multiple voices in a monophonic recording into individual files for biometric analysis.

**Developer tools.** The new release of IDVoice includes wrappers in Python and Java, enabling faster adoption and integration by enterprise developers. To facilitate flexible cloud deployments, ID R&D also ships IDVoice as a Docker image. IDVoice supports iOS, Android, Linux, and Windows, making it suitable for mobile devices, servers, private clouds, and embedded IoT architectures.

## IDVoice Use Cases



Contact center authentication



Contact center fraud detection —  
blacklist checks, anti-spoofing



Mobile web app “step up”  
authentication for added security



Frictionless mobile and web  
app login



Passive authentication for chatbots  
and virtual assistants



Smart device security and  
personalization

## Benefits

- Improve the user experience with frictionless authentication
- Significantly reduce agent time spent verifying users
- Quickly identify users and personalize service
- Increase security by eliminating weak passwords and hackable two-factor authentication methods
- Improve fraud detection and reduce account takeovers
- Lower the costs of password management and token-based security



Are you ready to learn more? Let's talk!  
Visit [www.idrnd.ai](http://www.idrnd.ai) for demos or to contact us.