Startup takes voiceprint recognition technology to Indonesia

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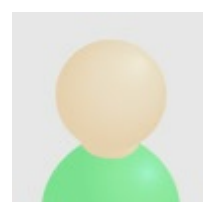
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VoiceAI CEO Kevin Li (right), with product director Micos Xie, said the company's voiceprint recognition technology is now being used to serve the needs of about 2.5 million retirees in Indonesia. Photo: EJ Insight

Home Startup
Jonathan Chong - Jun 21, 2018 12:31pm
Imagine hundreds of senior citizens lining up at a bank to receive their pension several times each year. This involves so much effort on the part of the pensioners, but also a lot of time and manpower for the bank's staff, not to mention the enormous costs.

A Shenzhen-based startup has found a solution to facilitate the release of the funds through the use of artificial intelligence, and is now deploying the technology to serve the needs of about 2.5 million retirees in Indonesia.

Since May, Taspen, the Indonesian state institution that manages the retirement funds for the country's civil servants, has been using a verification system that allows the pensioners to confirm their identities by simply speaking a single sentence.

The new system applies biometrics such as fingerprint, facial recognition and voiceprint to authenticate the identities of pensioners.

VoiceAI Technologies Co. Ltd., the Shenzhen company, provides the voiceprint recognition technology in this application, the first time the patented technology is being used in a national project on social security.

"AI technology has to integrate into a practical business scenario so as to serve people and bring increased efficiency," said Kevin Li Yatong, co-founder and chief executive officer of VoiceAI.

Besides its safety, convenience of use and low production cost, voiceprint recognition can effectively solve the problem of long-distance identity authentication, Li said.

Users can speak a single sentence into the phone to authenticate their identity. "Identification verification for pension fund is a very representative scenario," he said.

Identification verification

Everyone has a unique body structure, giving them a unique voice, VoiceAI product director Micos Xie explained.

A human voice can be identified through a spectrogram, which visually represents the spectrum of sound frequencies and other signals as they vary with time.

"For an identical word, each person produces a unique formant," Xie said.

A formant refers to a range of frequencies of a complex sound where there is an absolute or relative maximum in the sound spectrum, according to the Acoustical Society of America.

Xie said VoiceAI's system relies on these different patterns or distribution offormants to determine a speaker's identity.

Verification system

VoiceAI became involved in the project after learning of the Indonesian government's plan to develop a new verification system for the release of pension funds.

"After our analysis of the project, we offered our voiceprint recognition solution, which enables retirees to receive their pension without having leaving their home, while at the same time easing the workload of banks and the manpower input," said Li, who holds a master's degree in business administration from the the Chinese University of Hong Kong.

VoiceAI's involvement in the project started in early 2017. The Indonesian authorities were initially worried over the accuracy and reliability of the company's technology.

Indonesia's retired civil servants' population is definitely huge, and the authorities naturally demand a high degree of precision of the voiceprint recognition technology.

The problem was that the company had no Indonesian speech and voice database.

The startup has been collecting speech and voice data on site and conducting relevant testing since its system went online in May, with the help of sophisticated equipment including different brands of Android mobile phones and iPhones. The entire process of data collection and testing is expected to be completed in three to six months.

The company is currently studying a proposal for the second phase of development of the Indonesian project.

Global opportunities

The pension fund verification system is one application of the technologies developed by VoiceAI. Its technologies can also be applied in the financial sector as well as the judiciary and call center customer service.

Founded in 2016, VoiceAI currently has 16 staff members and focuses on the mainland market.

But since its initial success in Indonesia, the startup has started seeking opportunities in other markets such as Hong Kong, Taiwan, and countries in Southeast Asia and Latin America.

It has completed the registration of an office in Hong Kong, which will focus on algorithmic studies and global market development.

Its efforts are beginning to bear fruit this early. It was declared the champion and outstanding model at the CUHK Entrepreneurship Competition held during this year's CUHK Entrepreneur Day in May. It has also signed a memorandum of understanding with an investor, who also happens to be a CUHK alumnus.

The company completed angel funding of several million yuan early this year. It also plans to carry out a pre-series A funding worth a few million US dollars this year.
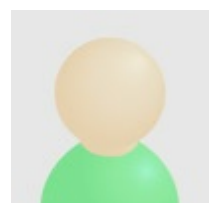
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VoiceKey, one of the company's products, allows pensioners to confirm their identity by speaking a single sentence into the phone. Photo: VoiceAI

Dr. Chen Dongpeng (far left), VoiceAI chief technology officer, CTO, conducts data collection and testing for the Indonesian project. Photo: VoiceAI

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