



Method for recognizing emotions and contextual events of multiple persons and a multi-device interactive system

PI : Prof. Vivian Ching-Mei Chu. Department of Drama and Theatre, National Taiwan U.

Experience:

Professor Vivian Chu's personal website: <https://www.viv-chu.com/>

Professor Chia-Ching Wang's personal website: <https://mediasystem.csie.ncu.edu.tw/faculty>

Market Needs:

A safe living environment is a necessity for the development of a country and a smart city. It not only allows people to live and work in peace and contentment but also attracts foreign investors, talents, and tourists. However, due to the limitations of existing technology and insufficient police force, there are still many blind spots in public safety, leading to a continuous increase in crime. There is an urgent need for a more effective way to fill the security gap and complete the smart city's security network.

Our Technology:

This patented technology is an improved real-time emotion and contextual recognition system based on sound signals. It collects sound signals from wearable devices on the user's body and interacts with multiple devices immediately when the user is in a critical situation caused by external force (such as robbery, sexual assault, kidnapping, and sexual harassment), providing notifications and triggering alarms through device interconnection.

Strength:

Unlike previous technologies that identify the behavior, emotion, or physiological signals of a single persons, this patent directly identifies the emotional state of one or more persons' voice signals in the environment (such as identifying the emotions of both the culprit and the victim at the same time). The composite analysis of the recognition results leads to more accurate contextual recognition. There is no need to store the user's voice signals for a long time. The method for constructing the emotional recognition algorithm database is different from the commonly used spectrum and voiceprint analysis methods in computer science. It uses acting experts trained in Theatre with existing emotional recognition scales for labeling, resulting in higher accuracy of emotion recognition in internal testing. The system can also be used across devices, making it suitable for personal or group use in homes, communities, outdoors, workplaces, and public spaces, with a wider range of applications. Competing products: General smart bracelets and watches.

Competing Products:

General smart bracelets and watches.

Intellectual Properties:

- (1) This technology has the following related patents: "Source separation method and source separation device" (I651927), "Method for identifying ambient sound" (I485697).
- (2) One of the inventors of this research team, Professor Ching-Mei Chu, is an expert in the field of AI right-brain emotion and can accurately interpret the emotions and intentions of human speech. She has nearly 20 years of practical and research experience in building various artificial intelligence emotion big data databases with top domestic AI scholars. Another core inventor, Professor Jia-Ching Wang, is a well-known expert in the field of AI computer vision and speech interaction in Taiwan, with more than 20 years of research experience and execution of various large-scale cross-disciplinary AI research projects funded by the National Science Council. He has more than 10 patented inventions.
- (3) The team has a preliminary app available for testing and application.

Contact (do not need to fill out):

Center for Industry-Academia Collaboration, NTU

Tel: 02-3366-9945, E-mail: ordiac@ntu.edu.tw

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