

Research on voiceprint recognition for assisted sow parturition care system ⁽¹⁾

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Abstract

The purpose of this project will be to develop a smart farrowing care system for piglets by collecting the voiceprints of sow farrow, piglet and piglets' cry. The voiceprint data would be transmitted to the database designated by the Mel-frequency cepstral coefficient (MFCC) through the Internet for storage. Those voiceprints of this project were collected in the sow farrowing house and were used for on-site real-time monitoring after constructing a predictive analysis model. The voiceprints of sow farrow, piglet and piglet's cry will be transmitted and tested by MFCC when those voiceprints were collected. The data showed those of the sow farrow and piglets' cry voice points below 4,000 Hz, 4,000 - 8,000 Hz and 2,000 - 4,000 Hz were sow farrow, piglet voice and piglet's cry, respectively. The sound of the piglet being pressed was as similar as the sow farrow voice, which also falls at 2,000 - 4,000 Hz, with a similar frequency spectrum. This research might be to use image recognition to assist artificial intelligent judgment and to develop a smart farrowing care system in the future.

Key words: Pig farm, Robot, Artificial intelligence, Parturition.

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