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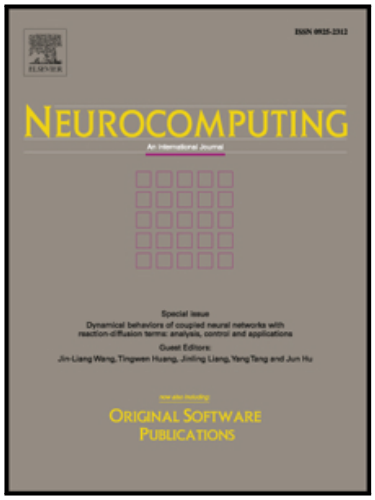

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Speech Emotion Recognition Based on An Improved Brain Emotion Learning Model

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Abstract

Human-robot emotional interaction has developed rapidly in recent years, in which speech emotion recognition plays a significant role. In this paper, a speech emotion recognition method based on an improved brain emotional learning (BEL) model is proposed, which is inspired by the emotional processing mechanism of the limbic system in the brain. The reinforcement learning rule of BEL model, however, makes it have poor adaptation and affects its performance. To solve these problems, Genetic Algorithm (GA) is employed to update the weights of BEL model. The proposal is tested on the CASIA Chinese emotion corpus, SAVEE emotion corpus, and FAU Aibo dataset, in which MFCC related features and their 1st order delta coefficients are extracted, and the proposal is tested on INTERSPEECH 2009 standard feature set, and three dimensionality reduction methods of Linear Discriminant Analysis (LDA), Principal Component Analysis (PCA), and

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