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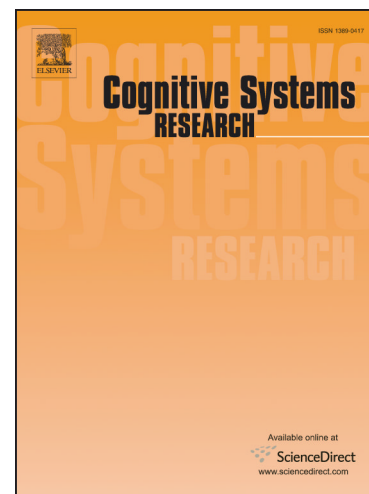
Fuzzy Clustering Based Self-organizing Neural Network for Real Time Evaluation of wind music

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# Fuzzy Clustering Based Self-organizing Neural Network for Real Time Evaluation of wind music

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**Abstract.** In order to improve the effectiveness of the evaluation of the form of Western wind music, this paper proposes a method for evaluating the form of Western wind music based on self-organizing neural network. First of all, aiming at the problem of Western form of wind music art presentation, this paper formulates a set of objective criteria that can be quantitatively expressed, and introduces the extraction methods of western wind tone features. Secondly, this paper considers the use of a fuzzy clustering method of constructing a self-organizing neural model for the proposed evaluation matrix to achieve the classification and evaluation of the artistic presentation of western wind music. Finally, an example is used to verify the validity of the proposed self-organizing neural model in the evaluation of the presentation form of western wind music.

**Keywords:** Self-organization, Neural, Western wind music, Art presentation, Form evaluation

## 1 Introduction

With the development of our country's economy, the people's living standards have been continuously improved. After basic life needs such as clothing, food, housing, and transportation have been satisfied, people are more eager to meet higher-level spiritual needs [1-5]. Learning western art of wind music is favored by more and more people. In recent years, there has been a significant increase in the number of people learning to play wind musical instruments in the society, and all age groups have enthusiasts who learn western wind instruments, among which young children learn western musical instruments with the largest number of musical performances. In middle- and high-level urban families, there is one family in every five families in which the parents hope that their children will learn the art of western wind instruments [5-10]. The number of applicants for the Western Wind Art Level Examination is even increasing at a rate of 20% per year. On the other hand, the reform of the national education system and the expansion of the education scale have greatly increased the demand for western wind music teachers [11-16]. In the western art of wind music education, professional teachers who are engaged in the art of

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