

Evaluation of Self-adaptive Harmony Search Algorithm In Music Genre Classification

Sahebeh Shabani Darvishanehbari*, Dr. Asadollah shahbahrami,

Abstract In recent years, the growing growth in the computer and Internet industry has affected all aspects of human life, and this, in fact, does not affect the field of music science. As music resources increase, music users need to be more easily accessible to these resources, so music storage and retrieval systems should be created. One of the most important tasks of a musical information retrieval system is classification. Classification refers to the process of designating and assigning one or more labels for recognizing a piece of music different perspectives, among which one can refer to the genre and style. Since the genre of music is the most commonly used method for managing digital music databases, the recognition of the genre of music is an important task that has been carried out by the Music Information Recovery Research Association since 2002. In this regard, an automated music genre classification system is evaluated based on a local attribute ion strategy with its self-matching harmonic search algorithm, which ultimately supports the classifier of the music genre with the support classifier. Is. The purpose of the feature ion is to the most important and relevant features that facilitate the classification, and this is done by using sub-ion algorithms. One of these algorithms is the Self-matching Harmony Search Algorithm (SAHS), a meta-exploratory algorithm. By ing the useful features of music data, this algorithm helps to simplify the classicalization of the genre of music, so that after generating the main feature set, the SAHS algorithm is constantly used to find the best way. The solution is then used, then this solution is evaluated according to relative correlations, and the best solutions are taken as the subset of the final property. The challenge is that the proposed method analyzes the entire music scroll, but if it is only a part of the music, then the genre can not automatically detect it. The purpose of this thesis is to compare at least one other algorithm with the SAHS algorithm to achieve a better result. For this purpose, the

particle swarm algorithm, which is a part of the exploratory algorithms, and such as SAHS, is used to the features. In this algorithm, random responses are generated that are referred to as particles, each particle has the properties, then it is placed in the target function and finds the error rate. Also, by segmenting the signal, the music signal is divided into small parts in the time domain, then the music features (such as intensity, step, sound color, tonality, and rhythm) will be extracted. The results show that the PSO is more powerful and better than SAHS.

Keywords : Keywords: Music Genre Classification, Feature ion, Self-adaptive Harmony Search Algorithm (SAHS), Particle Swarm Optimization Algorithm (PSO), Support Vector Machine (SVM).

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