Analyzing musical expressivity with a soft computing approach

In this paper we present our research on the design of a tool to analyze musical expressivity. Musical expressivity is a human activity difficult to model computationally because of its nature: implicitly acquired by musicians through a long process of listening and imitation. We propose the use of soft computing techniques to deal with this problem. Specifically, from a collection of sound features obtained by using state of the art audio analysis algorithms, we apply a soft computing process to generate a compact and powerful representation. Moreover, we have designed a graphical user interface to provide a flexible analysis tool. We are using the analysis tool in the guitarLab project, focused on the study of musical expressivity of classical guitar.
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