Title: MIDI Music Querying by Humming through Dynamic Time Warping

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ABSTRACT

The researchers presented a method for searching through short MIDI music files not by textual information but musical—by humming. The method involved correlation and dynamic time warping. Building the collection involves simplifying the MIDI files and formatting them into time-frequency matrices using the MIDI structure. Analysis of the hummed input on the other hand was done by autocorrelation, storing its time-frequency matrix. Comparison between the input and collection matrices was done by computing the overall distance between through dynamic time warping, giving the lowest score to the closest matching file. Results are promising in both accuracy and processing time, owing much from dynamic time warping distance computation.