

AUTHOR GUIDELINES FOR ICASSP 2013 PROCEEDINGS MANUSCRIPTS

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ABSTRACT

This paper details the implementation of a standalone desktop application in C++ for retrieval of audio files by rhythmic and timbral similarity, notable for being, to our knowledge, the only application of its type under the GNU General Public License (GPL). The implementation focuses on audio loops - short audio files intended to restart immediately upon completion for compositional purposes - to address the difficulty of navigating large loop libraries manually. The audio similarity measure utilizes tempo detection and statistical features of a spectral frame periodicity to provide a ranking of most similar audio files to a particular reference file. Although similarity measures are somewhat subjective and difficult to evaluate, we propose two evaluations: 1) A kNN classification with 63% accuracy on a ground truth data set developed by the authors using real-world audio loops and 2) A synthetic ground truth data set developed by the authors using related beat patterns at different tempos that demonstrates tempo invariance in retrieving rhythmically similar audio. [1]

Index Terms— One, two, three, four, five

1. INTRODUCTION

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All printed material, including text, illustrations, and charts, must be kept within a print area of 7 inches (178 mm) wide by 9 inches (229 mm) high. Do not write or print anything outside the print area. The top margin must be 1 inch (25 mm), except for the title page, and the left margin must be 0.75 inch (19 mm). All *text* must be in a two-column format. Columns are to be 3.39 inches (86 mm) wide, with a 0.24 inch (6 mm) space between them. Text must be fully justified.

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The paper title (on the first page) should begin 1.38 inches (35 mm) from the top edge of the page, centered, completely capitalized, and in Times 14-point, boldface type. The authors' name(s) and affiliation(s) appear below the title in capital and lower case letters. Papers with multiple authors and affiliations may require two or more lines for this information.

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In LaTeX, to start a new column (but not a new page) and help balance the last-page column lengths, you can use the command “\pagebreak” as demonstrated on this page (see the LaTeX source below).

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Since there are many ways, often incompatible, of including images (e.g., with experimental results) in a LaTeX document, below is an example of how to do this [?].

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Use footnotes sparingly (or not at all!) and place them at the bottom of the column on the page on which they are referenced. Use Times 9-point type, single-spaced. To help your readers, avoid using footnotes altogether and include necessary peripheral observations in the text (within parentheses, if you prefer, as in this sentence).

(a) Result 1
(b) Results 3 (c) Result 4

Fig. 1. Example of placing a figure with experimental results.

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12. REFERENCES

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13. REFERENCES

- [1] Finger C. Er Z. Connel C. Dang, A., “Audiocompare,” <https://github.com/charlesconnell/AudioCompare>, December 7 2013.