

ZERO-SHOT DJ TOOL DISCOVERY USING SPEECH ACTIVITY AND PRETRAINED CLAP EMBEDDINGS

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ABSTRACT

The abstract should be placed at the top left column and should contain about 150-200 words. LBD submissions are submitted as extended abstracts and **should not be anonymized**. Please note that extended abstract is not a conference paper. Therefore, it will not be part of the official ISMIR 2024 proceedings, and should not be cited as such.

1. INTRODUCTION

In genres like Hip-Hop, RnB, Reggae/Dancehall and just about every Electronic/Dance/Club style, DJ Tools are a selection of audio files curated to heighten the DJ's musical performance and creative mixing options. These files include: - Acapella loops - Sound effect samples - One-shots vocal samples - Background-vocal loops - Drums breaks - Melodic hooks - DJ Drops - Scratch and Battle loops - Various drum beats - Anything else to keep it fresh!

Whether mixing live or in the studio, DJ tools facilitate creative mixing options for remixes, re-edits, re-drums, mashups, long-playing mixtapes, etc. DJ Tools are commonly sold in online shops along with royalty-free sound libraries, samplepacks of loops and beats and include key signature, beat and tempo metadata where necessary to ensure sync to the DJ project master tempo.

2. CRATE DIGGING, THE AMEN BREAK & A SHORT HISTORY OF DJ TOOL

Before the advent of online shops peddling every kind of sonic tool, DJs would sample sections of riffs from tracks in their vinyl libraries, triggering and looping these samples to elevate the mix. Perhaps one of the most famous examples of this is the Amen break, where the drum break in a song by the American Funk and Soul band The Winstons called "Amen, Brother", was sampled first by Hip-Hop producers as a tool, before it caught fire and became the basis for thousands of songs. This very technique of

¹ <http://github.com:ruohoruotsi/acapella-instrumental-no-drums-classification>

sampling drum breaks became the genesis of breakbeat centric genres like Hardcore, Jungle, Drum'n'Bass. The key here is that the DJ knows their music library inside out and can manually excise the juiciest morsels as tools.

We adopt a "(2+1)-page policy" for Late-Breaking Demo (LBD) papers in ISMIR 2024. That is, LBD papers are extended abstracts that may have a maximum of 2 pages of technical content (including figures and tables) **with one optional page that contains only references and acknowledgments**.

3. PAGE SIZE

The proceedings will be printed on portrait A4-size paper (21.0cm x 29.7cm). All material on each page should fit within a rectangle of 17.2cm x 25.2cm, centered on the page, beginning 2.0cm from the top of the page and ending with 2.5cm from the bottom. The left and right margins should be 1.9cm. The text should be in two 8.2cm columns with a 0.8cm gutter. All text must be in a two-column format. Text must be fully justified.

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Please use a 10pt (point) Times font. Sans-serif or non-proportional fonts can be used only for special purposes, such as distinguishing source code text.

The first paragraph in each section should not be indented, but all other paragraphs should be.

4.2 Title and Authors

The title is 14pt Times, bold, caps, upper case, centered. **Note that LBD screening process is single-blind, and the authors' names should not be anonymized.** Authors' names are centered. The lead author's name is to be listed first (left-most), and the co-authors' names after. If the addresses for all authors are the same, include the address only once, centered. If the authors have different addresses, put the addresses, evenly spaced, under each author's name.

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First level headings are in Times 10pt bold, centered with 1 line of space above the section head, and 1/2 space below it. For a section header immediately followed by a subsection header, the space should be merged.

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Second level headings are in Times 10pt bold, flush left, with 1 line of space above the section head, and 1/2 space below it. The first letter of each significant word is capitalized.

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6.1 Footnotes

Indicate footnotes with a number in the text.² Use 8pt type for footnotes. Place the footnotes at the bottom of the page on which they appear. Precede the footnote with a 0.5pt horizontal rule.

6.2 Figures, Tables and Captions

All artwork must be centered, neat, clean, and legible. All lines should be very dark for purposes of reproduction and art work should not be hand-drawn. The proceedings are not in color, and therefore all figures must make sense in black-and-white form. Figure and table numbers and captions always appear below the figure. Leave 1 line space

² This is a footnote.

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Table 1. Table captions should be placed below the table.

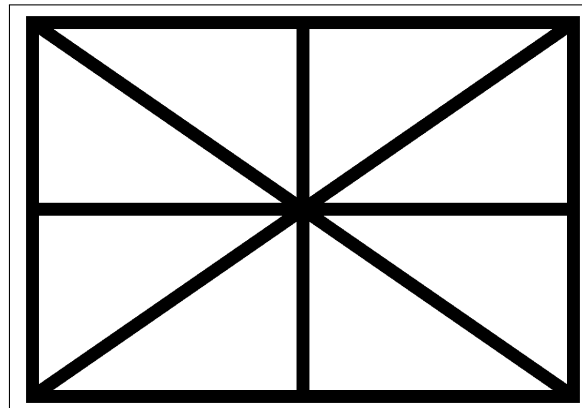


Figure 1. Figure captions should be placed below the figure.

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Equations should be placed on separate lines and numbered. The number should be on the right side, in parentheses, as in Eqn (1).

$$E = mc^2 \quad (1)$$

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All bibliographical references should be listed at the end of the submission, in a section named “REFERENCES,” numbered and in the order that they first appear in the text. Formatting in the REFERENCES section must conform to the IEEE standard (<https://ieeauthorcenter.ieee.org/wp-content/uploads/IEEE-Reference-Guide.pdf>). Approved IEEE abbreviations (Proceedings → Proc.) may be used to shorten reference listings. All references listed should be cited in the text. When referring to documents, place the numbers in square brackets (e.g., [1] for a single reference, or [2–4] for a range).

9. REFERENCES

- [1] A. Author and B. Author, “The title of the conference paper,” in *Proc. of the 18th Int. Society for Music Information Retrieval Conf.*, Suzhou, China, 2017, pp. 111–117.

- [2] A. Someone, B. Someone, and C. Someone, “The title of the journal paper,” *Journal of New Music Research*, vol. A, no. B, pp. 111–222, September 2010.
- [3] O. Person, *Title of the Book*. Montréal, Canada: McGill-Queen’s University Press, 2021.
- [4] F. Person and S. Person, “Title of a chapter this book,” in *A Book Containing Delightful Chapters*, A. G. Editor, Ed. Tokyo, Japan: The Publisher, 2009, pp. 58–102.