



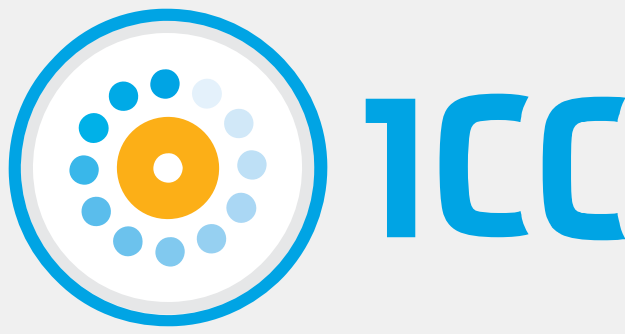
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Título

Subtítulo (si hay)

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TL; DR

3' Speech

Resultados

The Details

Resumen super corto

FIGURA PRINCIPAL



Grand goal: reach a computational model to analyze affect in music.

Anteriormente...

- Referencias previas

Nuestra propuesta

- Propuestas

Funcionó?

- Breves resultados

THT's pulse clarity correlates significantly with various datasets.



THT's pulse clarity correlations are comparable with other models of pulse clarity.



THT's pulse clarity presents an inverted U-shaped relationship with musicality and need-to-move responses in the Rhythms dataset.



The Model

THT is an agent-based model. Each agent keeps tabs on a tactus hypothesis and hence are named **hypothesis trackers**. A possible tactus is represented by a phase (p) and a period (δ). Trackers are created and updated while listening to the rhythm. Hypotheses have a **certainty score** in $[0, 1]$. Hypotheses parameters and score evolve overtime.

Future Work

The pulse clarity curve should be evaluated and calibrated on rhythmic stimuli that varies through time.

Figure presents example of the evaluation to-be performed, comparing pulse clarity with tapping variability in the MIREX dataset.

The Datasets

Rhythms:

- Task:** tap the beat freely while listening to rhythmic examples of varied difficulty.
- 33 30-second rhythmic stimuli of varying complexity (5 isochronous, 11 from ? , 7 from ? and 10 new)
- 30 participants of varying musical training (mean 4.85 years, $sd=3.90$)
- Participants also reported tapping difficulty, musicality of the stimulus and the feeling of needing to move.
- Pulse clarity was estimated as negative tapping difficulty (PC) and negative inter-tap interval entropy (ITI-E)

MIREX:

- 20 30-second musical excerpts of various musical genres
- 40 annotators
- Participants tapped to a self selected beat. Pulse clarity was estimated as the negative inter-tap interval entropy (ITI-E)

Soundtracks [??]:

- 100 5-minute excerpts of soundtracks
- 25 musically trained annotators
- Participants provided pulse clarity ratings (PC)

Comparison models

- MIRToolbox [?]:** estimates periodicities of a onset activation function obtained from the audio signal. Here we use MIRToolbox 1.7.2 (model 1).
- MAIPC (under review):** provides various estimates of pulse clarity from the inner workings of a deep-learning beat tracking model. Here we use the entropy of the distribution of possible beats estimated in the model from ? .

References