An Algorithm For Key Estimation In Electronic Dance Music

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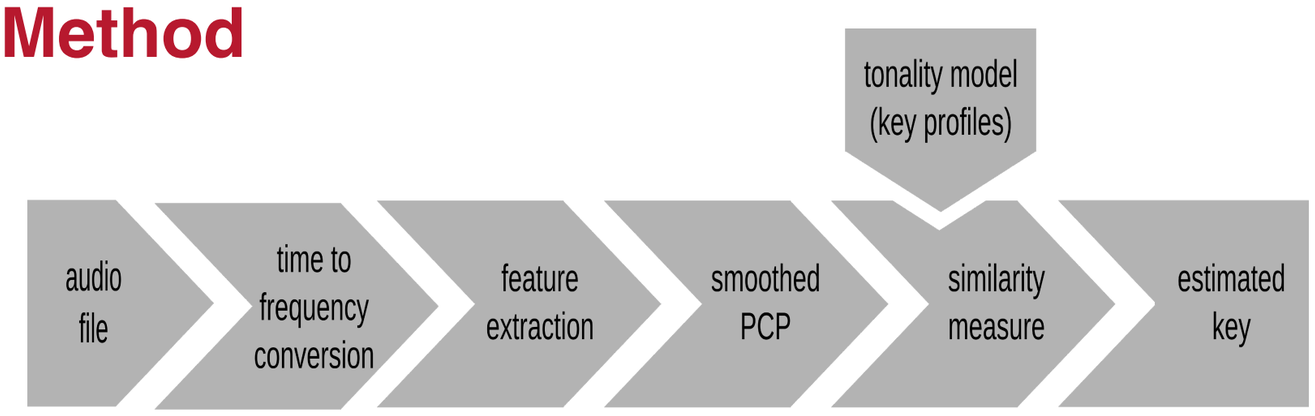
Method



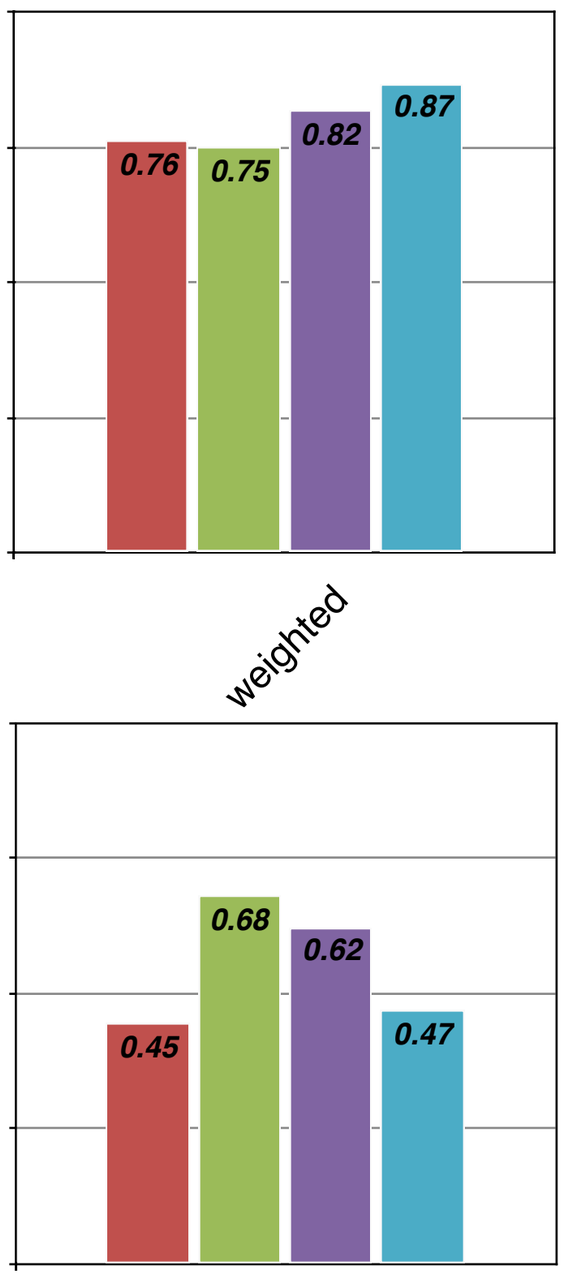
- Implemented in *Essentia* (essentia.upf.edu).
- Basic template-matching approach
- 3rd order high-pass filtering @ 200 Hz
- Spectral whitening
- Key Profiles:
  - Temperley (1999) (FJH2), major / minor harmonic
  - Derived from a corpus of EDM (FJH3)
    - 1 major and 2 minor profiles (aeolian / harmonic)
- Detuning Correction (+- 33 cent)

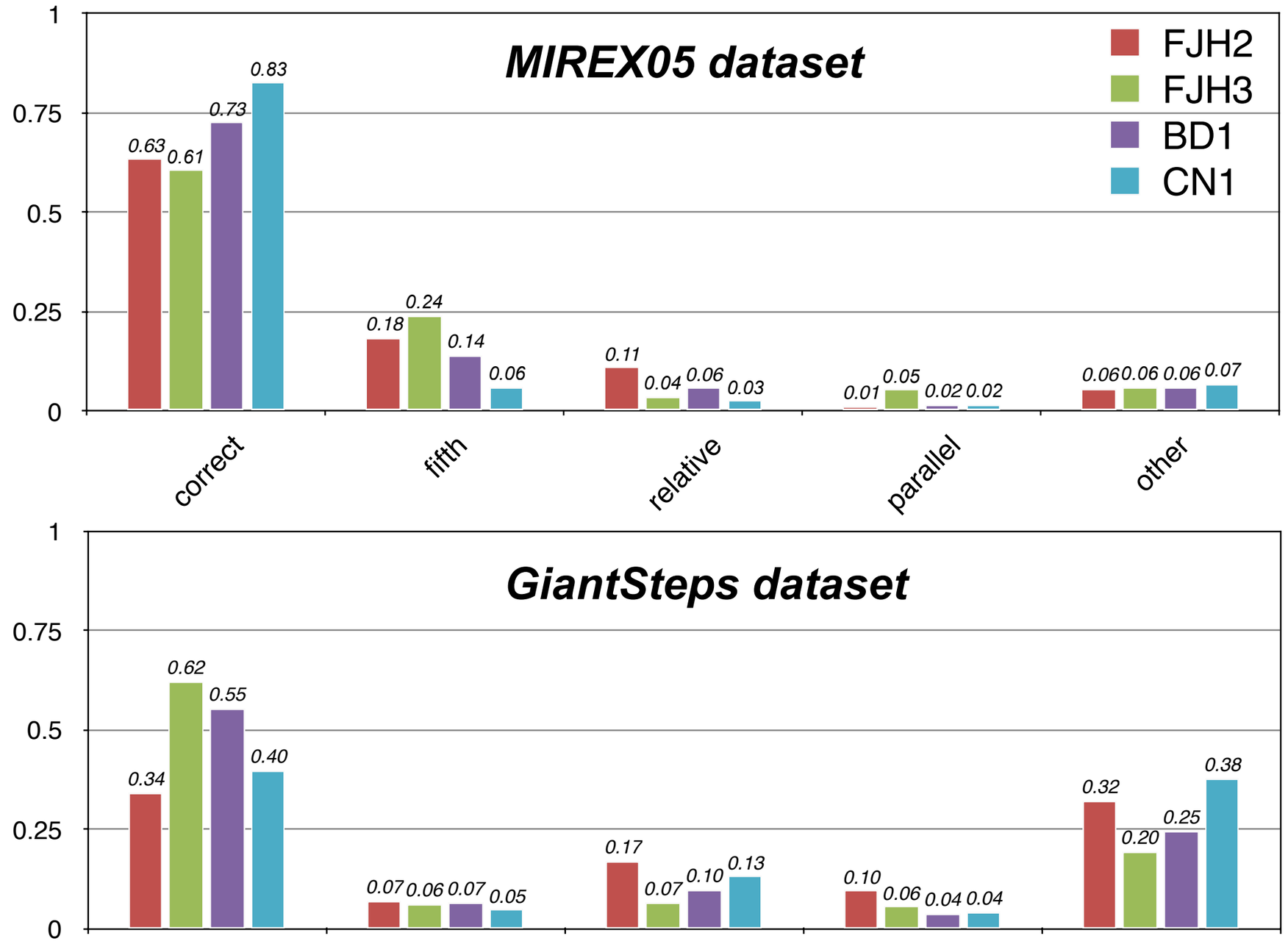
Observations

- FJH3 presents the smallest variance across datasets.
- Most errors of FJH3 in the MIREX05 dataset are fifth errors.
- Different strategies should be applied to different musical styles.
- Tonality is a dynamic notion that evolves over history.
- Classification could include finer modal details.
- Styles normally regarded as poorly interesting from a tonal viewpoint pose research challenges both to MIR and Music Theory fields.

Results

Results of our improved algorithm (FJH3) compared to our baseline method (FJH2) and the two other submitted algorithms by Bernardes and Davies (BD1); and Cannam & Noland (CN1).





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