Errata for the book *Music Data Analysis: Foundations and Applications*

by

Claus Weihs, Dietmar Jannach, Igor Vatolkin and Günter Rudolph (Eds.)

Department of Statistics and Department of Computer Science
TU Dortmund University, Germany

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Notation

Unfortunately, some errors have been found already.

In this document, we will explain which parts contain errors (marked "←") and are to be replaced by parts marked "→".

Text to be removed is printed in red, new text in blue color.

1. Introduction

2. The Musical Signal: Physically and Psychologically

3. Musical Structures and Their Perception

4. Digital Filters and Spectral Analysis

5. Signal-Level Features

6. Auditory Models

7. Digital Representation of Music

8. Music Data: Beyond the Signal Level

9. Statistical Methods

← (page 226) . . . 14 chroma features.
→ . . . 14 timbre features.

← (page 226) As chroma features we rely on . . .
→ As timbre features we rely on . . .

← (page 226) The windowed MFCCs and the chroma variables . . .
→ The windowed MFCCs and the timbre variables . . .

← (page 253, Figure 9.9,left) x-axis label "non-windowed MFCC 1", y-axis label "MFCC 1 in block 1"
→ x-axis label "MFCC 1 in block 1", y-axis label "non-windowed MFCC 1"

← (page 253) . . . the MFCCs and the chroma features introduced in Example 9.9.
→ . . . the MFCCs and the timbre features introduced in Example 9.9.

← (page 256) If the time unit is a second, n is also measured in Hz.
→ If the time unit is a second, f is also measured in Hz.

← (page 257) K = number of simultaneously played tones,
→ J = number of simultaneously played tones,

← (page 259) There are, e.g., 14 chroma variables of block 1.
→ There are, e.g., 14 timbre variables of block 1.

← (page 261) . . . , this time the 14 chroma variables of block 1.
→ . . . , this time the 14 timbre variables of block 1.

← (page 261; Figure 9.12,Biplot) "chroma" labels
→ "timbre" labels

← (page 261; Figure 9.12,caption) First 2 principal components of 14 chroma vectors
→ First 2 principal components of 14 timbre vectors

← (page 262; Figure 9.13) x-axis “Chroma 1 in block 1” label, y-axis “Chroma 2 in block 1” label
→ x-axis “Timbre 1 in block 1” label, y-axis “Timbre 2 in block 1” label}

← (page 262; Figure 9.13,caption) First 2 original chroma vectors.
→ First 2 original timbre vectors.

← (page 262) . . . directions of the first two chroma elements . . .
→ . . . directions of the first two timbre elements . . .

← (page 262) The other chroma elements . . .
→ The other timbre elements . . .

← (page 262) . . . the first two original chroma elements . . .
→ . . . the first two original timbre elements . . .

10. Optimization

11. Unsupervised Learning

← (page 290) . . . and windowed), chroma variables, . . .
→ . . . and windowed), timbre variables, . . .

← (page 297) . . . and the 14 chroma features of block 1.
→ . . . and the 14 timbre features of block 1.

← (page 297) . . . contains both MFCC and chroma features.
→ . . . contains both MFCC and timbre features.

← (page 297) . . . otherwise containing only chroma features.
→ . . . otherwise containing only timbre features.

← (page 297) . . . than to the chroma features, . . .
→ . . . than to the timbre features, . . .

← (page 298, Figure 11.6) chroma labels
→ timbre labels

12. Supervised Classification

13. Evaluation

← (page 333, Figure 13.1(c),first split, right) > 0.541
→ > 0.493

← (page 333, Figure 13.1(d),first split, right) > 0.541
→ > 0.493

← (page 355, Example 13.9) The only values we have to calculate are H_{FT} and H_{TF} on the test sample.
→ The only values we have to calculate are H_{FT} and H_{TF} on the test sample, where the instances are the 120 complete music tracks, i.e. we aggregate the predictions using Equation (13.19).

14. Feature Processing

15. Feature Selection

← (page 397; Equation 15.9) $P(c) = \frac{\sum_{\substack{w=1 \\ y_w=c}}^{W} 1}{G}$
→ $P(c) = \frac{\sum_{\substack{w=1 \\ y_w=c}}^{W} 1}{W}$

← (page 402; Definition 15.5) $m_1\left(\boldsymbol{y}, \hat{\boldsymbol{y}}, \Phi(\mathcal{F}, \mathbf{p})\right)$
→ $m_1\left(\boldsymbol{y}, \hat{\boldsymbol{y}}, \Phi(\mathcal{F}, \boldsymbol{q})\right)$

16. Segmentation

17. Transcription

18. Instrument Recognition

19. Chord Recognition

20. Tempo Estimation

21. Emotions

22. Similarity-Based Organization of Music Collections

23. Music Recommendation

24. Automatic Composition

25. Implementation Architectures

26. User Interaction

27. Hardware Architectures for Music Classification