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Local Boundary Analysis for Generative Theory of Tonal Music: From the Aspect of Classic Music Melody Analysis

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Abstract : The Generative Theory of Tonal Music (GTTM) provides systematic approaches to recognizing local boundaries of music. The rules have been implemented in some automated melody segmentation algorithms. Besides, there are also deep learning methods with GTTM features applied to boundary detection tasks. However, these studies might face constraints such as a lack of or inconsistent label data. The GTTM database is currently the most widely used GTTM database, which includes manually labeled GTTM rules and local boundaries. Even so, we found some problems with these labels. They are sometimes discrepancies with GTTM rules. In addition, since it is labeled at different times by multiple musicians, they are not within the same scope in some cases. Therefore, in this paper, we examine this database with musicians from the aspect of classical music and relabel the scores. The relabeled database - GTTM Database v2.0 - will be released for academic research usage. Despite the experimental and statistical results showing that the relabeled database is more consistent, the improvement in boundary detection is not substantial. It seems that we need more clues than GTTM rules for boundary detection in the future.

Keywords : dataset, GTTM, local boundary, neural network
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