CLAIMS

1. A computer-implemented method comprising:

obtaining a plurality of adapted musical work samples;

separating audio tracks of each of the plurality of adapted musical work samples;

determining instrument information identifying instruments played in each of the audio tracks;

performing originality analysis on each of the audio tracks by comparing each of the audio tracks with a melody library to obtain an originality value corresponding to each of the audio tracks, wherein performing the originality analysis on each of the audio tracks comprises:

comparing a target melody in each of the audio tracks with reference melodies in the melody library;

determining a key reference melody from the reference melodies in the melody library, wherein the key reference melody is most similar to the target melody in each of the audio tracks in digital analysis;

obtaining a similarity degree between the target melody in each of the audio tracks and the key reference melody in the melody library; and

obtaining the originality value corresponding to each of the audio tracks based on the similarity degree;

for each of the audio tracks, using a combination of the instrument information and the originality value corresponding to a particular audio track of the adapted musical work samples as a sample feature;

training, by using a machine learning method, a musical work adaptation quality evaluation model by using sample features of corresponding adapted musical work samples as input, and a predetermined evaluation score of a corresponding adapted musical work sample as output;

outputting, by the musical work adaptation quality evaluation model, an adaptation quality score of each of the plurality of adapted musical work samples; and

evaluating, by the musical work adaptation quality evaluation model, an adaptation quality for each of the plurality of adapted musical work samples based on the adaptation quality score.

2. The computer-implemented method according to claim 1, wherein the instrument information includes one or more instrument identifier each identifies an instrument played in a corresponding audio track.

3. The computer-implemented method according to claim 1, wherein the sample features further include a number of instruments played in each of the plurality of adapted musical work samples determined from the instrument information.

4. The computer-implemented method according to claim 1, wherein the sample features further include a coordination value corresponding to each of the plurality of adapted musical work samples determined based on performing coordination analysis to the audio tracks.

5. The computer-implemented method according to claim 4, wherein the coordination analysis is performed based on determining how much the audio tracks of each of the plurality of adapted musical work samples are in tune.

6. The computer-implemented method according to claim 1, wherein the predetermined evaluation score is manually assigned.

7. The computer-implemented method according to claim 1, further comprising:

determining musical features of the plurality of adapted musical work samples; and

inputting the musical features to the musical work adaptation quality evaluation model to obtain the adaptation quality score.

8. The computer-implemented method according to claim 1, wherein the originality analysis is performed based on comparing an audio track of an adapted musical work sample with reference audio tracks in a music library, determining a reference audio track from the reference audio tracks that is most similar to the audio track as a key reference audio track, and determining a similarity between the audio track and the key reference audio track.

9. A computer-implemented system, comprising one or more computers, and one or more computer memory devices interoperably coupled with the one or more computers and having tangible, non-transitory, machine-readable media storing one or more instructions that, when executed by the one or more computers, perform operations comprising:

obtaining a plurality of adapted musical work samples;

separating audio tracks of each of the plurality of adapted musical work samples;

determining instrument information identifying instruments played in each of the audio tracks;

performing originality analysis on each of the audio tracks by comparing each of the audio tracks with a melody library to obtain an originality value corresponding to each of the audio tracks, wherein performing the originality analysis on each of the audio tracks comprises:

comparing a target melody in each of the audio tracks with reference melodies in the melody library;

determining a key reference melody from the reference melodies in the melody library, wherein the key reference melody is most similar to the target melody in each of the audio tracks in digital analysis;

obtaining a similarity degree between the target melody in each of the audio tracks and the key reference melody in the melody library; and

obtaining the originality value corresponding to each of the audio tracks based on the similarity degree;

for each of the audio tracks, using a combination of the instrument information and the originality value corresponding to a particular audio track of the adapted musical work samples as a sample feature;

training, by using a machine learning method, a musical work adaptation quality evaluation model by using sample features of corresponding adapted musical work samples as input, and a predetermined evaluation score of a corresponding adapted musical work sample as output;

outputting, by the musical work adaptation quality evaluation model, an adaptation quality score of each of the plurality of adapted musical work samples; and

evaluating, by the musical work adaptation quality evaluation model, an adaptation quality for each of the plurality of adapted musical work samples based on the adaptation quality score.

10. The computer-implemented system according to claim 9, wherein the instrument information includes one or more instrument identifier each identifies an instrument played in a corresponding audio track.

11. The computer-implemented system according to claim 9, wherein the sample features further include a number of instruments played in each of the plurality of adapted musical work samples determined from the instrument information.

12. The computer-implemented system according to claim 9, wherein the sample features further include a coordination value corresponding to each of the plurality of adapted musical work samples determined based on performing coordination analysis to the audio tracks.

13. The computer-implemented system according to claim 12, wherein the coordination analysis is performed based on determining how much the audio tracks of each of the plurality of adapted musical work samples are in tune.

14. The computer-implemented system according to claim 9, wherein the predetermined evaluation score is manually assigned.

15. The computer-implemented system according to claim 9, the operations further comprising:

determining musical features of the plurality of adapted musical work samples; and

inputting the musical features to the musical work adaptation quality evaluation model to obtain the adaptation quality score.

16. The computer-implemented system according to claim 9, wherein the originality analysis is performed based on comparing an audio track of an adapted musical work sample with reference audio tracks in a music library, determining a reference audio track from the reference audio tracks that is most similar to the audio track as a key reference audio track, and get determining similarity between the audio track and the key reference audio track.

17. A non-transitory, computer-readable medium storing one or more instructions executable by a computer system to perform operations comprising:

obtaining a plurality of adapted musical work samples;

separating audio tracks of each of the plurality of adapted musical work samples;

determining instrument information identifying instruments played in each of the audio tracks;

performing originality analysis on each of the audio tracks by comparing each of the audio tracks with a melody library to obtain an originality value corresponding to each of the audio tracks, wherein performing the originality analysis on each of the audio tracks comprises:

comparing a target melody in each of the audio tracks with reference melodies in the melody library;

determining a key reference melody from the reference melodies in the melody library, wherein the key reference melody is most similar to the target melody in each of the audio tracks in digital analysis;

obtaining a similarity degree between the target melody in each of the audio tracks and the key reference melody in the melody library; and

obtaining the originality value corresponding to each of the audio tracks based on the similarity degree;

for each of the audio tracks, using a combination of the instrument information and the originality value corresponding to a particular audio track of the adapted musical work samples as a sample feature;

training, by using a machine learning method, a musical work adaptation quality evaluation model by using sample features of corresponding adapted musical work samples as input, and a predetermined evaluation score of a corresponding adapted musical work sample as output;

outputting, by the musical work adaptation quality evaluation model, an adaptation quality score of each of the plurality of adapted musical work samples; and

evaluating, by the musical work adaptation quality evaluation model, an adaptation quality for each of the plurality of adapted musical work samples based on the adaptation quality score.

18. The non-transitory, computer-readable medium according to claim 17, wherein the instrument information includes one or more instrument identifier each identifies an instrument played in a corresponding audio track.

19. The non-transitory, computer-readable medium according to claim 17, wherein the sample features further include a number of instruments played in each of the plurality of adapted musical work samples determined from the instrument information.

20. The non-transitory, computer-readable medium according to claim 17, wherein the sample features further include a coordination value corresponding to each of the plurality of adapted musical work samples determined based on performing coordination analysis to the audio tracks.

21. The non-transitory, computer-readable medium according to claim 20, wherein the coordination analysis is performed based on determining how much the audio tracks of each of the plurality of adapted musical work samples are in tune.

22. The non-transitory, computer-readable medium according to claim 17, wherein the predetermined evaluation score is manually assigned.

23. The non-transitory, computer-readable medium according to claim 17, the operations further comprising:

determining musical features of the plurality of adapted musical work samples; and

inputting the musical features to the musical work adaptation quality evaluation model to obtain the adaptation quality score.

24. The non-transitory, computer-readable medium according to claim 17, wherein the originality analysis is performed based on comparing an audio track of an adapted musical work sample with reference audio tracks in a music library, determining a reference audio track from the reference audio tracks that is most similar to the audio track as a key reference audio track, and get determining similarity between the audio track and the key reference audio track.