USING PALETTE PREDICTOR IN VIDEO CODING

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a national phase of International Application No. PCT/US2020/050181, filed on September 10, 2020, which claims the priority to and benefits of International Patent Application No. PCT/CN2019/105554, filed on September 12, 2019. For all purposes under the law, the entire disclosure of the aforementioned application is incorporated by reference as part of the disclosure of this application.

TECHNICAL FIELD

[0002] This patent document relates to video coding techniques, devices and systems.

BACKGROUND

[0001] Currently, efforts are underway to improve the performance of current video codec technologies to provide better compression ratios or provide video coding and decoding schemes that allow for lower complexity or parallelized implementations. Industry experts have recently proposed several new video coding tools and tests are currently underway for determining their effectivity.

SUMMARY

[0003] Devices, systems and methods related to digital video coding, and specifically, to management of motion vectors are described. The described methods may be applied to existing video coding standards (e.g., High Efficiency Video Coding (HEVC) or Versatile Video Coding) and future video coding standards or video codecs.

[0004] In one representative aspect, the disclosed technology may be used to provide a method for video processing. This method includes performing a conversion between a current block of a video and a coded representation of the video using a palette mode in which a palette of representative sample values is used for coding the current block. During the conversion, a predictor palette is used for predicting the palette of representative sample values. Updating of the predictor palette after the conversion of the current block is disabled according to a rule based on a characteristic of the current block.

CLAIMS

What is claimed is:

1. A method of video processing, comprising:

determining, for a conversion between a current block of a video and a bitstream of the video, that a prediction mode is applied to the current block, wherein in the prediction mode, reconstructed samples are represented by a set of representative color values, and the set of representative color values comprises at least one of 1) palette predictors, 2) escaped samples, or 3) palette information included in the bitstream;

constructing, a current palette for the current block based on a palette prediction table, wherein the current palette is used to derive the reconstructed samples of the current block;

performing the conversion based on the current palette; and

determining whether to update the palette prediction table based on a characteristic of the current block,

wherein the palette prediction table is updated based on the current palette.

2. The method of claim 1, wherein the characteristic of the current block comprises a color component.

3. The method of claim 2, wherein updating the palette prediction table is disabled when a local dual tree is applied to the current block and the current block is a chroma block.

4. The method of claim 2 or 3, wherein the characteristic of the current block further comprises dimensions of the current block.

5. The method of claim 4, wherein updating the palette prediction table is allowed when a width of the current block and a height of the current block are greater than a predefined threshold.

6. The method of claim 5, wherein the current block is a chroma block and the predefined threshold is 8, or

wherein the current block is a luma block and the predefined threshold is 16.

7. The method of any one of claims 2 to 6, wherein updating the palette prediction table is allowed when a local dual tree is applied to the current block and the current block is a luma block, and

wherein the updating comprises a reset process.

8. The method of any one of claims 1 to 7, wherein the palette prediction table comprises three color components when a single tree is applied to the current block,

wherein the palette prediction table comprises two chroma color components when a dual tree is applied to the current block and the current block is a chroma block, and

wherein the palette prediction table comprises one color component when a dual tree is applied to the current block and the current block is a luma block.

9. The method of any one of claims 1 to 8, wherein the current block is a luma block with a tree type of dual tree, and wherein palettes of different sizes are constructed for the current block and a chroma block corresponding to the current block.

10. The method of any one of claims 1 to 9, wherein the conversion includes encoding the current block into the bitstream.

11. The method of any one of claims 1 to 9, wherein the conversion includes decoding the current block from the bitstream.

12. An apparatus for processing video data comprising a processor and a non-transitory memory with instructions thereon, wherein the instructions upon execution by the processor, cause the processor to:

determine, for a conversion between a current block of a video and a bitstream of the video, that a prediction mode is applied to the current block, wherein in the prediction mode, reconstructed

samples are represented by a set of representative color values, and the set of representative color values comprises at least one of 1) palette predictors, 2) escaped samples, or 3) palette information included in the bitstream;

construct, a current palette for the current block based on a palette prediction table, wherein the current palette is used to derive the reconstructed samples of the current block;

perform the conversion based on the current palette; and

determine whether to update the palette prediction table based on a characteristic of the current block,

wherein the palette prediction table is updated based on the current palette.

13. The apparatus of claim 12, wherein the characteristic of the current block comprises a color component.

14. The apparatus of claim 13, wherein updating the palette prediction table is disabled when a local dual tree is applied to the current block and the current block is a chroma block.

15. The apparatus of claim 13 or 14, wherein the characteristic of the current block further comprises dimensions of the current block.

16. The apparatus of claim 15, wherein updating the palette prediction table is allowed when a width of the current block and a height of the current block are greater than a predefined threshold.

17. The apparatus of claim 16, wherein the current block is a chroma block and the predefined threshold is 8, or

wherein the current block is a luma block and the predefined threshold is 16.

18. The apparatus of any one of claims 12 to 17, wherein the current block is a luma block with a tree type of dual tree, and wherein palettes of different sizes are constructed for the current block and a chroma block corresponding to the current block.

19. A non-transitory computer-readable storage medium storing instructions that cause a processor to:

determine, for a conversion between a current block of a video and a bitstream of the video, that a prediction mode is applied to the current block, wherein in the prediction mode, reconstructed samples are represented by a set of representative color values, and the set of representative color values comprises at least one of 1) palette predictors, 2) escaped samples, or 3) palette information included in the bitstream;

construct, a current palette for the current block based on a palette prediction table, wherein the current palette is used to derive the reconstructed samples of the current block;

perform the conversion based on the current palette; and

determine whether to update the palette prediction table based on a characteristic of the current block,

wherein the palette prediction table is updated based on the current palette.

20. A non-transitory computer-readable recording medium storing a bitstream of a video which is generated by a method performed by a video processing apparatus, wherein the method comprises:

determining, for a current block of the video, that a prediction mode is applied to the current block, wherein in the prediction mode, reconstructed samples are represented by a set of representative color values, and the set of representative color values comprises at least one of 1) palette predictors, 2) escaped samples, or 3) palette information included in the bitstream;

constructing, a current palette for the current block based on a palette prediction table, wherein the current palette is used to derive the reconstructed samples of the current block;

generating the bitstream based on the current palette; and

determining whether to update the palette prediction table based on a characteristic of the current block,

wherein the palette prediction table is updated based on the current palette.