

CLAIMS

What is claimed is:

1. A method for video processing, comprising:
determining, for a conversion between a current picture of a video and a bitstream representation of the video, usage of a coding tool based on a condition associated with a dimension of a portion of one of multiple reference pictures or the current picture; and
performing the conversion based on the determining.
2. The method of claim 1, wherein the usage comprises whether the coding tool is enabled for the current picture.
3. The method of claim 1 or 2, wherein the portion of a picture comprises a conformance window outside of which samples are disposable when outputting the video, or a scaling window in which samples are subject to a resampling operation, or an entirety of the picture.
4. The method of any of claims 1 to 3, wherein the coding tool comprises a Decoder-side Motion Vector Refinement coding tool, a Bi-Directional Optical Flow coding tool, a prediction refinement with optical flow (PROF) coding tool, or an interpolation filter with a half-pel precision for motion compensation.
5. The method of claim 4, wherein the coding tool further comprises a temporal motion vector prediction coding tool, a multiple transform sets coding tool, a cross-component adaptive loop filtering coding tool, a geometric partitioning coding tool, a blending process for a coding tool that splits a block into multiple partitions, a coding tool that requires stored information in a picture different than the current picture, a coding tool that generates a pairwise merge candidate, a bi-prediction with coding-unit level weights, a weighted prediction coding tool, an affine prediction coding tool, or an adaptive motion vector resolution coding tool.

6. The method of any of claims 1 to 5, wherein the coding tool is disabled in case the condition specifying the dimension in the portion of at least one of the multiple reference pictures is different than a dimension of the current picture is satisfied.
7. The method of any of claims 1 to 6, wherein the dimension of the portion is modified for the determining.
8. The method of any of claims 1 to 7, wherein the usage of the coding tool is based on at least one of (1) a width of the picture minus one or more horizontal offsets, or (2) a height of the picture minus one or more vertical offsets.
9. The method of claim 8, wherein the one or more horizontal offsets comprise a left offset for a scaling window.
10. The method of claim 8, wherein the one or more vertical offsets comprise a top offset for a scaling window.
11. The method of claim 8, wherein the one or more horizontal offsets comprise a right offset and a left offset for a scaling window.
12. The method of claim 8, wherein the one or more vertical offsets comprise a bottom offset and top offset for a scaling window.
13. The method of claim 8, wherein the one or more horizontal offsets comprise a value based on scaling a sum of a right offset and a left offset for a scaling window.
14. The method of claim 8, wherein the one or more vertical offsets comprise a value based on scaling a sum of a bottom offset and top offset for a scaling window.

15. The method of any of claims 1 to 5, wherein the coding tool is disabled in case the condition specifying dimensions of portions of at least two of the multiple reference pictures are different is satisfied.
16. The method of any of claims 1 to 5, wherein a first pairwise merge candidate is marked as unavailable in case dimensions of portions of at least two of the multiple reference pictures used to derive the first pairwise merge candidate for one or two reference picture lists are different.
17. The method of any of claims 1 to 16, wherein the syntax element indicating the usage of the coding tool is conditionally signaled in the bitstream representation based on the dimensions of the portions.
18. The method of claim 17, wherein the syntax element indicating the usage of the coding tool is omitted in the bitstream representation.
19. The method of claim 17, wherein the syntax element indicating the usage of the coding tool is conditionally included in the bitstream representation further based on whether a reference picture resampling (RPR) process is enabled.
20. The method of claim 18, wherein the syntax element comprising one of `amvr_precision_idx`, `sym_mvd_flag`, or `mmvd_merge_flag`.
21. The method of any of claims 1 to 20, wherein the conversion according to the usage of the coding tool is modified based on the dimensions of the portions.
22. The method of claim 21, wherein the conversion comprises deriving a motion vector difference for a reference picture list in a symmetric motion vector difference process, wherein the deriving is based on a difference of dimensions of portions of at least two of the multiple reference pictures.

23. The method of claim 21, wherein the conversion comprises deriving a pairwise merge candidate, and wherein the deriving comprises applying a weighted average based on a difference of dimensions of portions of at least two of the multiple reference pictures.
24. A method for video processing, comprising:
performing a conversion between a block of a video and a bitstream representation of the video,
wherein, during the conversion an adaptive motion vector resolution (AMVR) with 1/2-pel motion vector precision is enabled for the block due to a reference picture resampling process is applicable to the block.
25. The method of claim 24, wherein a different interpolation filter is used for blocks having a precision different than 1/2-pel precision.
26. The method of any of claims 1 to 25, wherein the condition associated with the dimension of the portion of the reference picture is indicated by a flag associated with the reference picture.
27. The method of claim 26, wherein the coding tool is disabled in case the flag indicates that at least one reference picture in a reference picture list is scaled.
28. The method of claim 27, wherein the flag comprises `RefPicIsScaled[ 0 ][ refIdxL0 ]`, wherein `refIdxL0` is an index for a first reference picture list.
29. The method of claim 27, wherein the flag comprises `RefPicIsScaled[ 0 ][ refIdxL1 ]`, wherein `refIdxL1` is an index for second first reference picture list.
30. The method of any of claims 26 to 29, wherein the flag is determined during a reference picture list construction process.
31. A method for video processing, comprising:

determining, for a conversion between a block of a video and a bitstream representation of the video, a sum of absolute difference used in a Bi-Directional Optical Flow (BDOF) coding tool or a Decoder-side Motion Vector Refinement (DMVR) coding tool in a manner that is based on a bit-depth of the block; and

performing the conversion based on the determining.

32. The method of claim 31, wherein the sum of absolute difference is shifted based on a function of the bit-depth before being compared to a threshold for the BDOF coding tool or the DMVR coding tool.

33. The method of claim 31, wherein the sum of absolute difference is compared to a threshold that is modified based on a function of the bit-depth.

34. The method of any of claims 1 to 33, wherein the conversion includes encoding the video into the bitstream representation.

35. The method of any of claims 1 to 33, wherein the conversion includes decoding the bitstream representation into the video.

36. A video processing apparatus comprising a processor configured to implement a method recited in any of claims 1 to 35.

37. A computer-readable medium having code stored thereon, the code, upon execution by a processor, causing the processor to implement a method recited in any of claims 1 to 35.

38. A computer readable medium that stores a bitstream representation generated according to any of claims 1 to 35.