

CLAIMS:

1. A method for video decoding in a decoder, comprising:
 - checking, by a processor, an inferable condition for a flag of a specific prediction mode for a current block before parsing the flag of the specific prediction mode for the current
 - 5 block from a coded video bitstream, the specific prediction mode being one of a plurality of inter picture prediction modes;
 - inferring, by the processor, the flag without parsing the flag from the coded video bitstream when the inferable condition indicates that the flag is inferable;
 - parsing, by the processor, the flag from the coded video bitstream when the
 - 10 inferable condition indicates uncertainty for inferring the flag; and
 - reconstructing, by the processor, the current block according to the specific prediction mode when the flag is indicative of an application of the specific prediction mode on the current block.
2. The method of claim 1, further comprising:
 - 15 checking, by a processor, the inferable condition for the flag based on allowability of one or more other modes in the plurality of inter picture prediction modes.
3. The method of claim 1, wherein the flag is one of a regular flag of a regular merge/skip mode, a merge with motion vector difference (MMVD) flag of a MMVD mode, a sub-block flag of a sub-block based merge/skip mode, a combined intra inter prediction (CIIP)
- 20 flag of a CIIP mode, a triangle flag of a triangle partition mode.
4. The method of claim 2, wherein the specific prediction mode is ahead of the one or more modes in a tree structure for a prediction mode decision.
5. The method of claim 2, wherein the inferable condition is a combination of allowability of the specific prediction mode and allowability of other modes that are behind the
- 25 specific prediction modes in a tree structure for a prediction mode decision.
6. The method of claim 5, wherein the inferable condition indicates that the flag is inferable when the allowability of the specific prediction mode indicates that the specific prediction mode is not allowed.
7. The method of claim 5, wherein the inferable condition indicates that the flag is
- 30 inferable when the allowability of the other modes indicates that none of the other modes is allowed.

8. The method of claim 2, wherein the allowability of another mode is determined based on at least one of a sequence parameter set (SPS), a picture parameter set (PPS), a slice header, tile information, and tile group information.

9. The method of claim 2, wherein the allowability of another mode is determined based on size information of the current block.

10. The method of claim 1, wherein the inferable condition being based on whether the specific prediction mode and other modes in the plurality of inter prediction modes are allowed, the other modes being at a lower level than the specific prediction mode in a tree structure.

11. An apparatus for video decoding, comprising:

processing circuitry configured to:

check an inferable condition for a flag of a specific prediction mode for a current block before parsing the flag of the specific prediction mode for the current block from a coded video bitstream, the specific prediction mode being one of a plurality of inter picture prediction modes;

infer the flag without parsing the flag from the coded video bitstream when the inferable condition indicates that the flag is inferable;

parse the flag from the coded video bitstream when the inferable condition indicates uncertainty for inferring the flag; and

reconstruct the current block according to the specific prediction mode when the flag is indicative of an application of the specific prediction mode on the current block.

12. The apparatus of claim 11, wherein the processing circuitry is configured to:

check the inferable condition for the flag based on allowability of one or more other modes in the plurality of inter picture prediction modes.

13. The apparatus of claim 11, wherein the flag is one of a regular flag of a regular merge/skip mode, a merge with motion vector difference (MMVD) flag of a MMVD mode, a sub-block flag of a sub-block based merge/skip mode, a combined intra inter prediction (CIIP) flag of a CIIP mode, a triangle flag of a triangle partition mode.

14. The apparatus of claim 12, wherein the specific prediction mode is ahead of the one or more modes in a tree structure for a prediction mode decision.

15. The apparatus of claim 12, wherein the inferable condition is a combination of allowability of the specific prediction mode and allowability of other modes that are behind the specific prediction modes in a tree structure for a prediction mode decision.

16. The apparatus of claim 15, wherein the inferable condition indicates that the flag is inferable when the allowability of the specific prediction mode indicates that the specific prediction mode is not allowed.

17. The apparatus of claim 15, wherein the inferable condition indicates that the flag is inferable when the allowability of the other modes indicates that none of the other modes is allowed.

18. The apparatus of claim 12, wherein the allowability of another mode is determined based on at least one of a sequence parameter set (SPS), a picture parameter set (PPS), a slice header, tile information, and tile group information.

19. The apparatus of claim 12, wherein the allowability of another mode is determined based on size information of the current block.

20. The apparatus of claim 11, wherein the inferable condition being based on whether the specific prediction mode and other modes in the plurality of inter prediction modes are allowed, the other modes being at a lower level than the specific prediction mode in a tree structure.

21. A non-transitory computer-readable medium storing instructions which when executed by a computer for video decoding cause the computer to perform:

checking an inferable condition for a flag of a specific prediction mode for a current block before parsing the flag of the specific prediction mode for the current block from a coded video bitstream, the specific prediction mode being one of a plurality of inter picture prediction modes;

inferring the flag without parsing the flag from the coded video bitstream when the inferable condition indicates that the flag is inferable;

parsing the flag from the coded video bitstream when the inferable condition indicates uncertainty for inferring the flag; and

reconstructing the current block according to the specific prediction mode when the flag is indicative of an application of the specific prediction mode on the current block.

22. The non-transitory computer-readable medium of claim 21, wherein the inferable condition being based on whether the specific prediction mode and other modes in the plurality

of inter prediction modes are allowed, the other modes being at a lower level than the specific prediction mode in a tree structure.

23. The non-transitory computer-readable medium of claim 21, wherein the instructions cause the computer to perform:

- 5 checking the inferable condition for the flag based on allowability of one or more other modes in the plurality of inter picture prediction modes.