CLAIMS

1. A method of coding video data, the method comprising:

determining for a first block of the video data whether to use a sub-block merge mode;

based on the determination not to use the sub-block merge mode for the first block, determining whether to use a merge mode with blending for the first block;

based on the determination to use the merge mode with blending for the first block, coding the first block with the merge mode with blending;

determining for a second block of the video data whether to use the sub-block merge mode;

based on the determination to use the sub-block merge mode for the second block, coding the second block of video data with the sub-block merge mode;

determining for a third block of the video data whether to use the sub-block merge mode;

based on the determination not to use the sub-block merge mode for the third block, determining whether to use the merge mode with blending for the third block;

based on the determination not to use the merge mode with blending for the third block, determining whether to use a motion vector difference (MMVD) merge mode for the third block; and

coding the third block with the MMVD merge mode or a regular merge mode based on the determination whether to use the MMVD merge mode for the third block, wherein the regular merge mode does not use motion vector differences.

2. The method of claim 1, wherein the merge mode with blending is at least one of a geometric mode or a combined inter and intra prediction (CIIP) mode, and wherein determining whether to use the merge mode with blending for the first block comprises determining whether one of the geometric mode or the CIIP mode is to be used or neither of the geometric mode nor the CIIP mode is to be used.

3. The method of claim 2, wherein the geometric mode is a triangular mode.

4. The method of claim 1, further comprising not coding information indicative of whether an MMVD merge mode is enabled for the first block.

5. The method of claim 1, wherein determining whether to use the merge mode with blending for the first block comprises determining whether to use the merge mode with blending at least partially based on a size of the first block.

6. The method of claim 5, wherein the first block has a size of NxM and wherein NxM is greater than or equal to 64.

7. The method of claim 1, wherein coding comprises encoding and the method further comprises signaling a syntax element in a bitstream indicative of using the merge mode with blending for the first block after signaling a syntax element in the bitstream indicative that the sub-block merge mode for the first block is not to be used.

8. The method of claim 1, wherein coding comprises decoding and the method further comprises parsing a syntax element in a bitstream indicative of using the merge mode with blending for the first block after parsing a syntax element in the bitstream indicative that the sub-block merge mode for the first block is not to be used.

9. A device for coding video data, the device comprising:

a memory for storing the video data; and

one or more processors implemented in circuitry and communicatively coupled to the memory, the one or more processors being configured to:

determine for a first block of the video data whether to use a sub-block merge mode;

based on the determination not to use the sub-block merge mode for the first block, determine whether to use a merge mode with blending for the first block;

based on the determination to use the merge mode with blending for the first block, code the first block with the merge mode with blending;

determine for a second block of the video data whether to use the sub-block merge mode;

based on the determination to use the sub-block merge mode for the second block, code the second block of video data based on the sub-block merge mode;

determine for a third block of the video data whether to use the sub-block merge mode;

based on the determination not to use the sub-block merge mode for the third block, determine whether to use the merge mode with blending for the third block;

based on the determination not to use the merge mode with blending for the third block, determine whether to use a motion vector difference (MMVD) merge mode for the third block; and

code the third block with the MMVD merge mode or a regular merge mode based on the determination whether to use the MMVD merge mode for the third block, wherein the regular merge mode does not use motion vector differences.

10. The device of claim 9, wherein the merge mode with blending is at least one of a geometric mode or a combined inter and intra prediction (CIIP) mode, and wherein determining whether to use the merge mode with blending for the first block comprises determining whether one of the geometric mode or the CIIP mode is to be used or neither of the geometric mode nor the CIIP mode is to be used.

11. The device of claim 10, wherein the geometric mode is a triangular mode.

12. The device of claim 9, wherein the one or more processors are further configured to not code information indicative of whether an MMVD merge mode is enabled for the first block.

13. The device of claim 9, wherein the one or more processors are configured to determine whether to use the merge mode with blending for the first block by determining whether to use the merge mode with blending at least partially based on a size of the first block.

14. The device of claim 13, wherein the first block has a size of NxM and wherein NxM is greater than or equal to 64.

15. The device of claim 9, wherein code comprises encode and the one or more processors are further configured to signal a syntax element in a bitstream indicative of using the merge mode with blending for the first block after signaling a syntax element in the bitstream indicative that the sub-block merge mode for the first block is not to be used.

16. The device of claim 9, wherein code comprises decode and the one or more processors are further configured to parse a syntax element in a bitstream indicative of using the merge mode with blending for the first block after parsing a syntax element in the bitstream indicative that the sub-block merge mode for the first block is not to be used.

17. A non-transitory computer-readable storage medium having stored thereon instructions that, when executed, cause one or more processors to:

determine for a first block of video data whether to use a sub-block merge mode;

based on the determination not to use the sub-block merge mode for the first block, determine whether to use a merge mode with blending for the first block;

based on the determination to use the merge mode with blending for the first block, code the first block with the merge mode with blending;

determine for a second block of the video data whether to use the sub-block merge mode;

based on the determination to use the sub-block merge mode for the second block, code the second block of video data based on the sub-block merge mode;

determine for a third block of the video data whether to use the sub-block merge mode;

based on the determination not to use the sub-block merge mode for the third block, determine whether to use a merge mode with blending for the third block;

based on the determination not to use the merge mode with blending for the third block, determine whether to use a motion vector difference (MMVD) merge mode for the third block; and

code the third block with the MMVD merge mode or a regular merge mode based on the determination whether to use the MMVD merge mode for the third block, wherein the regular merge mode does not use motion vector differences.

18. The non-transitory computer-readable storage medium of claim 17, wherein the merge mode with blending is at least one of a geometric mode or a combined inter and intra prediction (CIIP) mode, and wherein determining whether to use the merge mode with blending for the first block comprises determining whether one of the geometric mode or the CIIP mode is to be used or neither of the geometric mode nor the CIIP mode is to be used.

19. The non-transitory computer-readable storage medium of claim 18, wherein the geometric mode is a triangular mode.

20. The non-transitory computer-readable storage medium of claim 17, wherein the instructions, when executed, further cause the one or more processors to not code information indicative of whether an MMVD merge mode is enabled for the first block.

21. The non-transitory computer-readable storage medium of claim 17, wherein the instructions, when executed, further cause the one or more processors to determine whether to use the merge mode with blending for the first block by determining whether to use the merge mode with blending at least partially based on a size of the first block.

22. The non-transitory computer-readable storage medium of claim 21, wherein the first block has a size of NxM and wherein NxM is greater than or equal to 64.

23. The non-transitory computer-readable storage medium of claim 17, wherein code comprises encode and the instructions, when executed, further cause the one or more processors to signal a syntax element in a bitstream indicative of using the merge mode with blending for the first block after signaling a syntax element in the bitstream indicative that the sub-block merge mode for the first block is not to be used.

24. The non-transitory computer-readable storage medium of claim 17, wherein code comprises decode and the instructions, when executed, further cause the one or more processors to parse a syntax element in a bitstream indicative of using the merge mode with blending for the first block after parsing a syntax element in the bitstream indicative that the sub-block merge mode for the first block is not to be used.

25. The method of claim 1, wherein determining not to use the merge mode with blending for the third block is before determining whether to use the MMVD merge mode for the third block.

26. The device of claim 9, wherein the one or more processors are configured to determine not to use the merge mode with blending for the third block before determining whether to use the MMVD merge mode for the third block.

27. The non-transitory computer-readable storage medium of claim 17, wherein the instructions cause the one or more processors to determine not to use the merge mode with blending for the third block before determining whether to use the MMVD merge mode for the third block.

28. A device for decoding video data, the device comprising:

a memory for storing the video data; and

one or more processors implemented in circuitry and communicatively coupled to the memory, the one or more processors configured to:

determine, for a first block of the video data, whether to use a sub-block merge mode;

based on a determination not to use the sub-block merge mode for the first block, determine to use a merge mode with blending for the first block;

based on the determination to use the merge mode with blending for the first block, determine whether to use a first merge mode with blending or a second merge mode with blending for the first block;

based on a determination to use the first merge mode with blending or the second merge mode with blending, decode the first block with the either the first merge mode with blending or the second merge mode with blending;

determine, for a second block of the video data, whether to use the sub-block merge mode;

based on a determination to use the sub-block merge mode for the second block, decode the second block of video data based on the sub-block merge mode;

determine, for a third block of the video data, not to use the sub-block merge mode;

responsive to the determination not to use the sub-block merge mode for the third block, determine whether to use a merge mode from a normal merge mode group, the

normal merge mode group comprising a motion vector difference (MMVD) merge mode and a regular merge mode, or to use a merge mode with blending for the third block;

based on a determination to use a merge mode from the normal merge mode group for the third block, determine to use the MMVD merge mode or the regular merge mode for the third block; and

decode the third block with either the MMVD merge mode or the regular merge mode, wherein the regular merge mode does not use motion vector differences.

29. The device of claim 28, wherein the first merge mode with blending is a combined inter and intra prediction (CIIP) mode, and the second merge mode with blending is a geometric mode, and wherein the one or more processors are further configured to determine whether one of the CIIP mode or the geometric mode is to be used.

30. The device of claim 28, wherein the one or more processors are further configured to not decode information indicative of whether an MMVD merge mode is used for the first block.

31. The device of claim 28, wherein the one or more processors are further configured to determine whether to use the merge mode with blending based on a size of the first block.

32. The device of claim 31, wherein the first block has a size of NxM and wherein NxM is greater than or equal to 64.

33. The device of claim 9, wherein the one or more processors are further configured to parse a syntax element in a bitstream indicative of using the merge mode with blending for the first block after parsing a syntax element in the bitstream indicative that the sub-block merge mode for the first block is not to be used.

34. A device for coding video data, the device comprising:

a memory for storing the video data; and

one or more processors configured to:

determine for a first block of the video data whether to use a sub-block merge mode;

based on the determination not to use the sub-block merge mode for the first block, determine whether either a first group including a geometric mode and a combined inter and intra prediction (CIIP) mode or a second group including a regular merge mode and a motion vector difference (MMVD) merge mode is to be used;

based on the determination that the first group is to be used for the first block, code the first block with one of the geometric mode or the CIIP mode;

determine for a second block of the video data whether to use a sub-block merge mode;

based on the determination to use a sub-block merge mode for the second block, code the second block of video data based on the sub-block merge mode.

determine for a third block of the video data whether to use the sub-block merge mode;

based on the determination not to use the sub-block merge mode for the third block, determine whether either the first group or the second group is to be used for the third block;

based on the determination that the second group is to be used for the third block, determine whether to use the MMVD merge mode for the third block; and

code the third block with the MMVD merge mode or the regular merge mode based on the determination whether to use an MMVD merge mode for the third block.

35. The device of claim 34, wherein the geometric mode is a triangular mode.

36. The device of claim 34, wherein the one or more processors are further configured to not code information indicative of whether an MMVD merge mode is enabled for the first block.

37. The device of claim 34, wherein the one or more processors are configured to determine whether either the first group or the second group is to be used by determining whether either the first group or the second group is to be used at least partially based on a size of the first block.

38. The device of claim 35, wherein the first block has a size of NxM and wherein NxM is greater than or equal to 64.

39. The device of claim 34, wherein code comprises encode and the one or more processors are further configured to:

signal a syntax element in a bitstream indicative of using either the first group or the second group for the first block after signaling a syntax element in the bitstream indicative that the sub-block merge mode for the first block is not to be used.

40. The device of claim 34, wherein code comprises decode and the one or more processors are further configured to:

parse a syntax element in a bitstream indicative of using either the first group or the second group for the first block after parsing a syntax element in the bitstream indicative that the sub-block merge mode for the first block is not to be used.