

CLAIMS

1. A device for video decoding an encoded current block of video data, the device comprising: a memory configured to store a reconstructed current block of video data; and one or more processors configured to: process one or more bits, in a bitstream, that represent a flag, and indicate the encoded current block of video data was encoded based on a unified candidate list; construct the unified candidate list for the current block, including: determine one or more adjacent neighboring blocks to the current block that are predicted using one or more translational motion vectors and add the one or more adjacent neighboring blocks as normal merge candidates to the unified candidate list; and determine one or more adjacent neighboring blocks to the current block that are predicted using one or more affine motion vectors and adding the one or more adjacent neighboring blocks as affine merge candidates to the unified candidate list such that all of the affine merge candidates follow all of the normal merge candidates of adjacent neighboring blocks in the unified candidate list; process a merge index in the bitstream, wherein the merge index indicates a candidate in the unified candidate list to be used to form a predictor block for the current block, the candidate being one of the normal merge candidates or the affine merge candidates; select one or more motion vectors of the candidate from the unified candidate list, the candidate corresponding to merge index; form, based on the selected one or more motion vectors from the candidate, the predictor block for the current block; and reconstruct the current block of video data based on the predictor block of video data.
2. The device of claim 1, wherein the unified candidate list includes at most seven normal merge candidates and at most four affine merge candidates.
3. The device of claim 1, wherein to form the predictor block for the current block, the one or more processors are configured to: when the candidate is one of the normal merge candidates, perform temporal motion compensation using the translational motion vectors of the candidate to form the predictor block; or when the candidate is one of the affine merge candidates, perform affine motion compensation using the affine motion vectors of the candidate to form the predictor block.
4. The device of claim 3, wherein when the candidate is one of the affine merge candidates, the selected one or more motion vectors of the affine merge candidate corresponds to a four-parameter affine model or a six-parameter affine model.
5. A method for video decoding an encoded current block of video data, comprising: processing one or more bits, in a bitstream, that represent a flag, and indicate the encoded current block of video data was encoded based on a unified candidate list; constructing the unified candidate list for the current block, including: determining one or more adjacent neighboring blocks to the current block that are predicted using one or more translational motion vectors and adding the one or more adjacent neighboring blocks as normal merge candidates to the unified candidate list and determining one or more adjacent neighboring blocks to the current block that are predicted using one or more affine motion vectors and adding the one or more adjacent neighboring blocks as affine merge candidates to the unified candidate list such that all of the affine merge candidates follow all of the normal merge candidates of adjacent neighboring blocks in the unified candidate list; processing a merge index in the bitstream, wherein the merge index

indicates a candidate in the unified candidate list to be used to form a predictor block for the current block, the candidate being one of the normal merge candidates or the affine merge candidates; selecting one or more motion vectors of the candidate from the unified candidate list, the candidate corresponding to the merge index; forming, based on the selected one or more motion vectors from the candidate, the predictor block for the current block; and reconstructing the current block of video data based on the predictor block of video data.

6. The method of claim 5, wherein the unified candidate list includes at most seven normal merge candidates and at most four affine merge candidates.

7. An apparatus for video decoding an encoded current block of video data, comprising: means for processing one or more bits, in a bitstream, that represent a flag, and indicate the encoded current block of video data was encoded based on a unified candidate list; means for constructing the unified candidate list for the current block, including: means for determining one or more adjacent neighboring blocks to the current block that are predicted using one or more translational motion vectors and adding the one or more adjacent neighboring blocks as normal merge candidates to the unified candidate list; and means for determining one or more adjacent neighboring blocks to the current block that are predicted using one or more affine motion vectors and adding the one or more adjacent neighboring blocks as affine merge candidates to the unified candidate list such that all of the affine merge candidates follow all of the normal merge candidates of adjacent neighboring blocks in the unified candidate list; means for processing a merge index in the bitstream, wherein the merge index indicates a candidate in the unified candidate list to be used to form a predictor block for the current block, the candidate being one of the normal merge candidates or the affine merge candidates; means for selecting one or more motion vectors of the candidate from the unified candidate list, the candidate corresponding to the merge index means for forming, based on the selected one or more motion vectors from the candidate, the predictor block for the current block; and means for reconstructing the current block of video data based on the predictor block of video data.

8. A device for video encoding, the device comprising: one or more processors configured to: construct a unified candidate list for a current block of video data, including: determine one or more adjacent neighboring blocks to the current block of video data that are predicted using one or more translational motion vectors and add the one or more adjacent neighboring blocks as normal merge candidates to the unified candidate list; determine one or more adjacent neighboring blocks to the current block that are predicted using one or more affine motion vectors and add the one or more adjacent neighboring blocks as affine merge candidates to the unified candidate list; determine to form a predictor block for the current block using the motion vectors of one of the candidates in the unified candidate list select a merge index corresponding to the one of the candidates in the unified candidate list; and provide the merge index in a bitstream; and a memory configured to store the video data.

9. The device of claim 1, wherein the one or more processors are further configured to, when the candidate comprises one of the affine merge candidates: determine a first size of the affine merge candidate; determine a second size of the current block; and modify the affine motion vectors of the affine merge candidate according to the first size and the second size.

10. The device of claim 1, wherein the one or more processors are further configured to: determine one or more non-adjacent neighboring blocks to the current block; and add the non-adjacent neighboring blocks as non-adjacent candidates to the unified candidate list following the affine merge candidates.

11. The method of claim 5, further comprising, when the candidate comprises one of the affine merge candidates: determining a first size of the affine merge candidate; determining a second size of the current block; and modifying the affine motion vectors of the affine merge candidate according to the first size and the second size.

12. The method of claim 5, further comprising: determining one or more non-adjacent neighboring blocks to the current block; and adding the non-adjacent neighboring blocks as non-adjacent candidates to the unified candidate list following the affine merge candidates.

13. The device of claim 7, further comprising: means for determining a first size of the affine merge candidate when the candidate comprises one of the affine merge candidates; means for determining a second size of the current block when the candidate comprises one of the affine merge candidates; and means for modifying the affine motion vectors of the affine merge candidate according to the first size and the second size when the candidate comprises one of the affine merge candidates.

14. The device of claim 7, further comprising: means for determining one or more non-adjacent neighboring blocks to the current block; and means for adding the non-adjacent neighboring blocks as non-adjacent candidates to the unified candidate list following the affine merge candidates.

15. The device of claim 8, wherein the one or more processors are further configured to, when the candidate comprises one of the affine merge candidates: determine a first size of the affine merge candidate; determine a second size of the current block; and modify the affine motion vectors of the affine merge candidate according to the first size and the second size.

16. The device of claim 8, wherein the one or more processors are further configured to: determine one or more non-adjacent neighboring blocks to the current block; and add the non-adjacent neighboring blocks as non-adjacent candidates to the unified candidate list following the affine merge candidates.