2018

[Summary]

[Technical Problem]

[0004]

Since splitting a CU into a size of 2 × 2 becomes possible a CU for Cb/Cr, the throughput of the CU having a size of 2 × 2 for Cb/Cr in intra prediction becomes bottleneck.

[0005]

Embodiments of the present disclosure are made in view of such a situation as described above and make it possible to reduce delay that may possibly occur in intra prediction.

[Solution to Problem]

[0006]

According to a first aspect of the present disclosure, there is provided an image processing apparatus including a control section configured to exclude, when a CU split structure for luminance and a CU split structure for chroma are to be determined, for the chroma, a CU split structure that is a minimum size in at least one of a vertical direction or a horizontal direction to determine a CU split structure for the chroma, and an encoding section configured to encode an image with the CU split structure for luminance and the CU split structure for chroma to generate an encoded stream.

[0006a]

According to a second aspect of the present disclosure, there is provided an image processing method performed by an image processing apparatus, including: excluding, when a CU split structure for luminance and a CU split structure for chroma are to be determined, for the chroma, a CU split

structure that is a minimum size in at least one of a vertical direction or a horizontal direction to determine a CU split structure for the chroma; and encoding an image with the CU split structure for luminance and the CU split structure for chroma to generate an encoded stream.

[0006b]

According to a third aspect of the present disclosure, there is provided a program for causing a computer to function as: a control section configured to exclude, when a CU split structure for luminance and a CU split structure for chroma are to be determined, for the chroma, a CU split structure that is a minimum size in at least one of a vertical direction or a horizontal direction to determine a CU split structure for the chroma; and an encoding section configured to encode an image with the CU split structure for luminance and the CU split structure for chroma to generate an encoded stream.

[0007]

In the the first aspect of the present disclosure, when a CU split structure for luminance and a CU split structure for chroma are to be determined, for the chroma, a CU split structure that is a minimum size in at least one of a vertical direction or a horizontal direction is excluded, and a CU split structure for the chroma is determined. Then, an image is encoded with the CU split structure for luminance and the CU split structure for chroma, and an encoded stream is generated.

[0008]

According to a fourth aspect of the present disclosure, there is provided an image processing apparatus of another aspect of the present disclosure includes a control section configured to exclude, when a CU split structure for luminance and a CU split structure for chroma are to be determined, for the chroma, a CU split structure that is a

minimum size in at least one of a vertical direction or a horizontal direction to determine a CU split structure for the chroma and determine a CU split structure for the luminance and a CU split structure for the chroma on the basis of an encoded stream generated by encoding an image with the CU split structure for luminance and the CU split structure for chroma, and a decoding section configured to decode the encoded stream to generate the image on the basis of the CU split structure for luminance and the CU split structure for chroma.

[0008a]

According to a fifth aspect of the present disclosure, there is provided an image processing method performed by an image processing apparatus, including: excluding, when a CU split structure for luminance and a CU split structure for chroma are to be determined, for the chroma, a CU split structure that is a minimum size in at least one of a vertical direction or a horizontal direction to determine a CU split structure for the chroma and determine a CU split structure for the luminance and a CU split structure for the chroma on a basis of an encoded stream generated by encoding an image with the CU split structure for luminance and the CU split structure for chroma; and decoding the encoded stream to generate the image on a basis of the CU split structure for luminance and the CU split structure for chroma.

[0008b]

According to a sixth aspect of the present disclosure, there is provided a program for causing a computer to function as: a control section configured to exclude, when a CU split structure for luminance and a CU split structure for chroma are to be determined, for the chroma, a CU split structure that is a minimum size in at least one of a vertical direction or a horizontal direction to determine a CU split structure

for the chroma and determine a CU split structure for the luminance and a CU split structure for the chroma on a basis of an encoded stream generated by encoding an image with the CU split structure for luminance and the CU split structure for chroma; and a decoding section configured to decode the encoded stream to generate the image on a basis of the CU split structure for luminance and the CU split structure for chroma.

[0009]

In the fourth aspect of the present disclosure, when a CU split structure for luminance and a CU split structure for chroma are to be determined, for the chroma, a CU split structure that is a minimum size in at least one of a vertical direction or a horizontal direction is excluded, and a CU split structure for the chroma is determined. Further, a CU split structure for the luminance and a CU split structure for the chroma are determined on the basis of an encoded stream generated by encoding an image with the CU split structure for luminance and the CU split structure for chroma. Then, on the basis of the CU split structure for luminance and the CU split structure for chroma, the encoded stream is decoded, and the image is generated.

[Brief Description of Drawings]

[0010]

[FIG. 1]

FIG. 1 is a view depicting an example of split of a CU that is an encoding unit.

[FIG. 2]

FIG. 2 depicts views depicting a split method of a CU.