

[NPL 4] Gisle Bjøntegaard, "Improvements of the BD-PSNR model," ITU-T SG16 Q.6 Document, VCEG-AI11, Berlin, July 2008

[Summary of Invention]

[Technical Problem]

[0008] In such an image coding method and an image decoding method, memory usage (memory capacity to be used) is desired to be reduced.

[0009] Embodiments of Here, the present invention provide~~has an object of providing~~ an image coding method or an image decoding method that can reduce the memory usage.

[Solution to Problem]

[0010] Disclosed herein is an~~In order to achieve the object, the image decoding method according to an aspect of the present invention is an image decoding method using arithmetic decoding, and the method includes:~~ determining a context for use in a current block, from among a plurality of contexts; performing arithmetic decoding on a bit sequence corresponding to the current block, using the determined context to decode a binary sequence, the bit sequence being obtained by performing arithmetic coding on a control parameter of the current block; and inversely binarizing the binary sequence to decode the control parameter of the current block, wherein the determining of a context includes: determining a signal type of the control parameter of the current block; determining the context under a first condition that decoded control parameters of neighboring blocks of the current block are used, when the signal type is a first type, the neighboring blocks being a left block and an upper block of the current block; and determining the context under a second condition that the decoded control parameter of the upper block is not used, when the signal type is a second type different from the first type.

[0010a] In one aspect, there is provided an image decoding method using arithmetic decoding, the method comprising: determining a context for use in a current block, from among a plurality of contexts; performing arithmetic decoding on a bit sequence corresponding to the current block, using the determined context to decode a binary sequence, the bit sequence being obtained by performing arithmetic coding on a control parameter of the current block; and inversely binarizing the binary sequence to decode the control parameter of the current block, wherein the determining of a context includes: determining a signal type of the control parameter of the current block; determining the context under a first condition that decoded control parameters of neighboring blocks of the current block are used, when the signal type is a first type, the neighboring blocks being a left block and an upper block of the current block; and determining the context under a second condition that a predetermined fixed value is used and the decoded control

parameters of the left block and the upper block are not used, when the signal type is a second type different from the first type, wherein the first type is one of (i) a flag indicating whether or not the current block is partitioned into a plurality of blocks and (ii) a flag indicating whether or not the current block is to be skipped, and the second type is a flag indicating whether or not a merge mode is used for the current block.

[0010b] In another aspect, there is provided an image decoding apparatus using arithmetic decoding, the apparatus comprising: a context control unit configured to determine a context for use in a current block, from among a plurality of contexts; an arithmetic decoding unit configured to perform arithmetic decoding on a bit sequence corresponding to the current block, using the determined context to decode a binary sequence, the bit sequence being obtained by performing arithmetic coding on a control parameter of the current block; and an inverse binarization unit configured to inversely binarize the binary sequence to decode the control parameter of the current block, wherein the context control unit is configured to: determine a signal type of the control parameter of the current block; determine the context under a first condition that decoded control parameters of neighboring blocks of the current block are used, when the signal type is a first type, the neighboring blocks being a left block and an upper block of the current block; and determine the context under a second condition that a predetermined fixed value is used and the decoded control parameters of the left block and the upper block are not used, when the signal type is a second type different from the first type, wherein the first type is one of (i) a flag indicating whether or not the current block is partitioned into a plurality of blocks and (ii) a flag indicating whether or not the current block is to be skipped, and the second type is a flag indicating whether or not a merge mode is used for the current block.

[Advantageous Effects of Invention]

[0011] Embodiments of ~~The~~ present invention can provide an image coding method or an image decoding method that can reduce the memory usage.

[Brief Description of Drawings]

[0012]