CLAIMS

What is claimed is:

1. A method for video predictive coding, comprising:

determining, according to an executed mode, information of the executed mode in a decision making process of a best mode of a current prediction unit in inter-frame prediction, wherein the information of the executed mode comprises a temporary best mode and a cost of the temporary best mode, wherein the cost of the temporary best mode comprises a sum of absolute transformed difference (SATD) cost of the temporary best mode; and

determining, based on the information of the executed mode, whether to skip an intra-frame prediction mode of the decision making process, wherein skipping the intra-frame prediction mode comprises skipping partial processes of Intra and skipping whole processes of the intra-frame prediction mode;

wherein determining, based on the information of the executed mode, whether to skip the intra-frame prediction mode of the decision making process comprises:

determining an SATD cost of a best intra-frame prediction mode by rough decision making on an SATD of the intra-frame prediction mode of the prediction unit; and

determining whether to skip a subsequent process of the intra-frame prediction mode according to a size of the prediction unit and in combination with the SATD cost of the temporary best mode and the SATD cost of the best intra-frame prediction mode;

in the case that the size of the prediction unit is N x N, wherein N is a positive integer, determining whether to skip the subsequent process of the intra-frame prediction mode in combination with the SATD cost of the temporary best mode and the SATD cost of the best intra-frame prediction mode comprises:

determining whether a first prediction unit with a size of 4 x 4 adopts a transform skipping mode;

determining a mode cost threshold based on a result of the determination and the SATD cost of the temporary best mode; and

skipping the subsequent process of the intra-frame prediction mode in response to determining that the SATD cost of the best intra-frame prediction mode is greater than the mode cost threshold;

in the case that the size of the prediction unit is 2N x 2N, the executed mode comprises a coding unit recursive mode, and the information of the executed mode comprises a ratio at which a coding sub-block corresponding to a current coding unit is an intra-frame prediction sub-block, wherein the intra-frame prediction sub-block is a sub-block where a predicted best mode is the intra-frame prediction mode; and

determining whether to skip the subsequent process of the intra-frame prediction mode in combination with the SATD cost of the temporary best mode and the SATD cost of the best intra-frame prediction mode comprises:

skipping the subsequent process of the intra-frame prediction mode in response to determining that the SATD cost of the best intra-frame prediction mode is greater than the SATD cost of the temporary best mode and the ratio is less than a predetermined ratio threshold.

2. The method according to claim 1, wherein determining the mode cost threshold based on the result of the determination and the SATD cost of the temporary best mode comprises:

determining the mode cost threshold as a product of the SATD cost of the temporary best mode and a first regulatory factor in response to determining that the first prediction unit with the size of 4 x 4 adopts the transform skipping mode; and

determining the mode cost threshold as a product of the SATD cost of the temporary best mode and a second regulatory factor in response to determining that the first prediction unit with the size of 4 x 4 does not adopt the transform skipping mode, wherein the second regulatory factor is less than the first regulatory factor.

3. An apparatus for video predictive coding, comprising:

an executed mode information determining module, configured to determine, according to an executed mode, information of the executed mode in a decision making process of a best mode of a current prediction unit in inter-frame prediction, wherein the information of the executed mode comprises a temporary best mode and a cost of the temporary best mode, wherein the cost of the temporary best mode comprises a sum of absolute transformed difference (SATD) cost of the temporary best mode; and

an intra-frame prediction mode skip determining module, configured to determine, based on

the information of the executed mode, whether to skip an intra-frame prediction mode of the decision making process, wherein skipping the intra-frame prediction mode comprises skipping partial processes of Intra and skipping whole processes of the intra-frame prediction mode;

wherein the executed mode information determining module comprises:

an SATD rough decision making sub-module, configured to determine an SATD cost of a best intra-frame prediction mode by rough decision making on an SATD of the intra-frame prediction mode of the prediction unit; and

a first Intra mode skip determining sub-module, configured to determine whether to skip a subsequent process of the intra-frame prediction mode according to a size of the prediction unit and in combination with the SATD cost of the temporary best mode and the SATD cost of the best intra-frame prediction mode;

wherein in the case that the size of the prediction unit is N x N, wherein N is a positive integer, the first Intra mode skip determining sub-module is configured to determine whether a first prediction unit with a size of 4 x 4 adopts a transform skipping mode; determine a mode cost threshold based on a result of the determination and the SATD cost of the temporary best mode; and skip the subsequent process of the intra-frame prediction mode in response to determining that the SATD cost of the best intra-frame prediction mode is greater than the mode cost threshold; and

in the case that the size of the prediction unit is 2N x 2N, the executed mode comprises a coding unit recursive mode, and the information of the executed mode comprises a ratio at which a coding sub-block corresponding to a current coding unit is an intra-frame prediction sub-block, wherein the intra-frame prediction sub-block is a sub-block where a predicted best mode is the intra-frame prediction mode; and the first Intra mode skip determining sub-module is configured to skip the subsequent process of the intra-frame prediction mode in response to determining that the SATD cost of the best intra-frame prediction mode is greater than the SATD cost of the temporary best mode and the ratio is less than a predetermined ratio threshold; wherein N is a positive integer.

4. An electronic device for video predictive coding, comprising a memory, a processor, and a computer program stored on the memory and runnable on the processor, wherein the processor, when loading and running the program, is caused to perform the method as defined in any one of claims 1 to 2.

5. A computer-readable storage medium, storing a computer program thereon, wherein the computer program, when loaded and run by a processor, causes the processor to perform the method as defined in any one of claims 1 to 2.