# CLAIMS

1. A method of decoding an image with a decoding apparatus, comprising:

generating a prediction pixel of a current block of a first color space, the prediction pixel of the current block being generated by using a plurality of reference pixels belonging to a corresponding block of a second color space;

deriving correlation information between the current block of the first color space and the corresponding block of the second color space, using a first neighboring region adjacent to the current block of the first color space and a second neighboring region adjacent to the corresponding block of the second color space;

correcting the prediction pixel of the current block based on the correlation information; and

reconstructing the current block of the first color space based on the corrected prediction pixel,

wherein generating the prediction pixel of the current block of the first color space comprises performing a filtering on the reference pixels belonging to the corresponding block of the second color space,

wherein the reference pixels include at least one of a filtering target pixel or a neighboring pixel of the filtering target pixel,

wherein the neighboring pixel of the filtering target pixel includes at least one of a top pixel, a left pixel, a right pixel, a top-left pixel, a top-right pixel, a bottom pixel, a bottom-left pixel, or a bottom-right pixel adjacent to the filtering target pixel, and

wherein a number of the reference pixels to be used to generate the prediction pixel of the current block of the first color space is variably determined based on a flag signaled from an encoding apparatus.

2. The method of claim 1, wherein a position of each of the first neighboring region and

the second neighboring region is determined based on an intra prediction mode of the current block of the first color space.

3. The method of claim 2, wherein the first neighboring region includes at least one of a top region, a left region, a top-left region, a bottom-left region or a top-right region of the current block of the first color space.

4. The method of claim 1, wherein deriving the correlation information comprises:

determining a plurality of pixels for correcting the prediction pixel of the current block, among pixels belonging to the second neighboring region adjacent to the corresponding block of the second color space; and

generating one pixel by applying a weighting filter to the determined plurality of pixels.

5. A method of encoding an image with an encoding apparatus, comprising:

generating a prediction pixel of a current block of a first color space, the prediction pixel of the current block being generated by using a plurality of reference pixels belonging to a corresponding block of a second color space;

deriving correlation information between the current block of the first color space and the corresponding block of the second color space, using a first neighboring region adjacent to the current block of the first color space and a second neighboring region adjacent to the corresponding block of the second color space;

correcting the prediction pixel of the current block based on the correlation information; and

encoding the current block of the first color space based on the corrected prediction pixel,

wherein generating the prediction pixel of the current block of the first color space

comprises performing a filtering on the reference pixels belonging to the corresponding block of the second color space,

wherein the reference pixels include at least one of a filtering target pixel or a neighboring pixel of the filtering target pixel,

wherein the neighboring pixel of the filtering target pixel includes at least one of a top pixel, a left pixel, a right pixel, a top-left pixel, a top-right pixel, a bottom pixel, a bottom-left pixel or a bottom-right pixel adjacent to the filtering target pixel, and

wherein a flag for determining a number of the reference pixels to be used to generate the prediction pixel of the current block of the first color space is encoded.

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

generating a prediction pixel of a current block of a first color space, the prediction pixel of the current block being generated by using a plurality of reference pixels belonging to a corresponding block of a second color space;

deriving correlation information between the current block of the first color space and the corresponding block of the second color space, using a first neighboring region adjacent to the current block of the first color space and a second neighboring region adjacent to the corresponding block of the second color space;

correcting the prediction pixel of the current block based on the correlation information; and

reconstructing the current block of the first color space based on the corrected prediction pixel,

wherein generating the prediction pixel of the current block of the first color space comprises performing a filtering on the reference pixels belonging to the corresponding block of the second color space,

wherein the reference pixels include at least one of a filtering target pixel or a neighboring

pixel of the filtering target pixel,

wherein the neighboring pixel of the filtering target pixel includes at least one of a top pixel, a left pixel, a right pixel, a top-left pixel, a top-right pixel, a bottom pixel, a bottom-left pixel or a bottom-right pixel adjacent to the filtering target pixel, and

wherein a number of the reference pixels to be used to generate the prediction pixel of the current block of the first color space is variably determined based on a flag signaled from an encoding apparatus.