MATRIX-BASED INTRA PREDICTION USING UPSAMPLING

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This is a national phase of International Patent Application No. PCT/CN2020/091542, filed on May 21, 2020, which claims the priority to and benefits of International Patent Application No. PCT/CN2019/087987, filed on May 22, 2019. The entire disclosure of the aforementioned application is incorporated by reference as part of the disclosure of this application.

TECHNICAL FIELD

[0002] This patent document relates to video coding techniques, devices and systems.

BACKGROUND

[0003] In spite of the advances in video compression, digital video still accounts for the largest bandwidth use on the internet and other digital communication networks. As the number of connected user devices capable of receiving and displaying video increases, it is expected that the bandwidth demand for digital video usage will continue to grow.

SUMMARY

[0004] Devices, systems and methods related to digital video coding, and specifically, matrix-based intra prediction methods for video coding are described. The described methods may be applied to both the existing video coding standards (e.g., High Efficiency Video Coding (HEVC)) and future video coding standards (e.g., Versatile Video Coding (VVC)) or codecs.

[0005] A first example method of video processing includes performing a conversion between a current video block of a video and a bitstream representation of the current video block using a matrix based intra prediction (MIP) mode in which a prediction block of the current video block is determined by performing, on previously coded samples of the video, a boundary downsampling operation, followed by a matrix vector multiplication operation, and followed by an upsampling operation, where the upsampling operation is performed, in both a vertical direction and a horizontal direction in a fixed order, on samples obtained from the matrix vector multiplication operation.