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Enhancement of Night Time Video using Dark Channel Prior IP Accelerator

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Abstract—The enhancement of night-time video using Dark Channel Prior IP accelerator is proposed in this paper. Night time video processing is difficult due to low brightness, low contrast and high noise in the video. The above problems affect the accuracy and may results in failures of object detection in night time video. Dark Channel Prior (DCP) filter is used to improve the visibility, brightness and contrast of the video at night time. Processing speed is challenging task on real time application of DCP algorithm for night time video enhancement. Hence, DCP algorithm is implemented on FPGA (ALVEO Board) to increase the speed of video processing.

Keywords: Image enhancement, DCP, FPGA, Vitis Xilinx software

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