



## Research of Image Pre-processing Algorithm Based on FPGA

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*Abstract- How to design a low-cost , reliable and real-time target recognition system with large amount of data has become a hot topic in the area of image processing .However, Edge detection has played an important role in target recognition system. The threshold of traditional canny edge detection algorithm must be setting by human, and has a large number of calculations. In order to overcome the shortcomings of the traditional Canny algorithm, proposing an adaptive threshold edge detection algorithm, and realizing it by hardware. This paper will introduce the implementation of the common low-level image processing algorithm in the FPGA, including color space convert module , edge extraction algorithms module , Hough transform module .The results of the experiment indicate that to realize the large amount of calculation of image processing by FPGA hardware logic, not only improves the effect of image processing, but also has high real-time!*

**Index terms: FGPA, candy operator, Edge detection, Gaussian transform**