

Lab 9 - Gather

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This lab objective is to do a histogram equalization of greyscale image.

I wrote 3 kernels for this task.

- First kernel for computing the Histogram of the image
- Second kernel for building a map from the range $[0, 255]$ to a new value using the given method. Each thread calculate the new greyscale level of one value in the range $[0, 255]$ (256 threads in total)
- Last kernel simply map all pixels to a new value using the map from second kernel

Here is the final result, you can clearly see the higher constrast on the sky:

Time elapsed: 25.5 ms



(a) Original image



(b) Histogram equalized