

## CUDA HW: Convert color image to gray image

In this homework, you are required to use Cuda to redo your homework to convert color image to gray image.

Please follow the Cuda processing flow to do the work:

1. Host reads the jpg file
2. Allocate memory in Device.
3. Copy colors from Host to Device.
4. Launch the convert kernel on Device. Each thread converts one pixel.
5. Copy colors from Device back to Host.
6. Host write the gray image to a jpg file.

Timing your code. You can compare the performance with your OpenMP code and MPI code.

Write a final report and submit together with your code.