

M2-BigData : GPGPU
Chapter 12 – Exercice 2

Objectives

Optimize the blurring kernel obtained from chapter 3.

Instructions

1. Profile your code from Chapter 3 with convolution kernel using a kernel with an average of the 7×7 neighbor pixels (instead of 3×3 in chapter 3) on the 4k image.
2. Adapt the algorithm to handle the entire image with streams and pinned memory. Explain your strategy.
3. Profile the new version and report the total execution time from start of the first copy to end of last copy. Compare with the initial version.

Indication : Start with an overlapping of the result copy to host and the kernel execution.