Cuda implementation of Famous Algorithms and Techniques for Distributed and Parallel Computing

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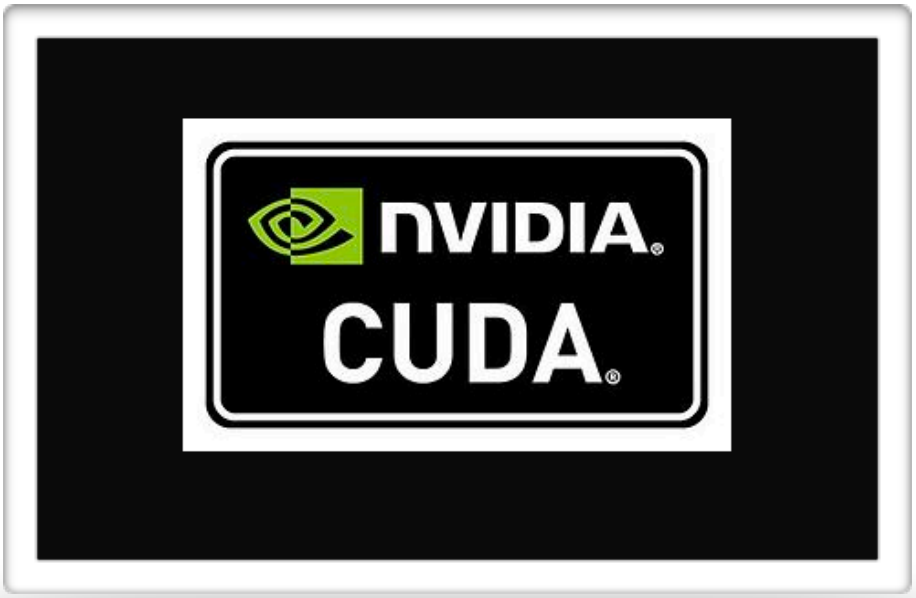

This project is aimed at implementing the following algorithms in cuda using c++ :

- Matrix Multiplication : Two dimension matrix multiplication by distributing the calculation among CUDA threads

- Image Processing : Applying mean filter to the images consecutively to the given image to convert a coloured image into a grey scale image.

- Histogram Processing : Calculating the frequency of occurrence for the respective bins by distributing the work amongst CUDA threads.

- Reduction and Divide and Conquer Sorting : Sorting the given array using divide and conquer technique via CUDA threads using various ways.

- Monte Carlo Simulation For HPC : It is a computerised mathematical technique that allows people to account for risk in quantitative analysis and decision making using probability distribution.

Important Specifications

Platform Used : Windows 10

Code Editor and Compiler : Visual Studio 2015

Nvidia Graphics Card : GTX 960 M