

READ ME

Before we start setup first we need to make sure

- 1) that the computer you are on has a supported GPU
- 2) To check the GPU model in a lab computer, open the NVIDIA Control Panel. The GPU model is shown on the initial screen

Setup on Windows

- 1) Make sure you are running Windows 7/8/10 and that your NVIDIA drivers are up-to-date
- 2) Install Visual Studio 2015
- 3) You need C++ support. None of the optional components are necessary. Install [CUDA 7](#). CUDA 7.5 is recommended for its new performance profiling tools. However, 7.0 is fine
- 4) Use the Express installation. If using Custom, make sure you select Nsight for Visual Studio.
- 5) Download the VS 2015 project from github and click on Bitonic.vcxproj to open it in VS 2015.
- 6) Run the code to get Analysis which looks like below:

Analysis Report:

N	time over serial code	time over Bitonic CUDA code	is sorted?	speedup:
4	0.00000	0.00000	YES	0.000000
8	0.00000	0.00000	YES	0.000000
16	0.00000	0.00000	YES	0.000000
32	0.00000	0.00000	YES	0.000000
64	0.00000	0.00000	YES	0.000000
128	0.00000	0.00100	YES	0.000000
256	0.00000	0.00000	YES	0.000000
512	0.00000	0.00100	YES	0.000000
1024	0.00100	0.00100	YES	0.999999
2048	0.00100	0.00100	YES	0.999999
4096	0.00300	0.00100	YES	2.999997
8192	0.00700	0.00300	YES	2.333333
16384	0.01300	0.00400	YES	3.249999
32768	0.02700	0.00900	YES	3.000000
65536	0.04400	0.01700	YES	2.588235
131072	0.10400	0.03900	YES	2.666667
262144	0.18100	0.08400	YES	2.154762
524288	0.35000	0.17400	YES	2.011494
1048576	0.70200	0.37800	YES	1.857143