

Cooper Krauth  
GPGPU Final Project

Matrix Size	CPU Mean (ms)	CPU Standard Deviation (ms)	GPU Mean (ms)	GPU Standard Deviation (ms)	Transpose Kernel (ms)	Partial Sums Kernel (ms)	CPU Computing Mean from Partial Sums (ms)	Mean Speedup	Standard Deviation Speedup
256 x 256	0	0	0.04672	0.120672	0.127584	3.57376	0	0	0
256 x 1024	0	1	0.204608	0.1248	0.042912	6.6519	0	0	8.012820513
512 x 2048	1	3	0.079456	0.27136	0.048348	6.26586	0	0.159595	11.05542453
512 x 4096	2	6	0.08144	0.280576	0.149504	13.9428	0	0.143443	21.38458029
1024 x 4096	14	27	0.162848	0.492544	0.181472	26.2247	0	0.533848	54.81743763
2048 x 4096	45	53	0.19824	1.26362	0.255296	25.0214	0	1.798461	41.94298919
4096 x 4096	96	106	0.176928	2.2039	0.430336	23.6052	0	4.066901	48.09655611
8192 x 4096	192	230	0.565456	3.78386	0.671712	25.0163	0	7.674996	60.78448991
16384 x 4096	396	441	0.680576	7.42835	1.23699	24.9588	0	15.86615	59.36715421

The following execution times were collected for various matrix sizes and were used to compute the speedup of the mean and standard deviation kernels.