

Report:

Performance of matrix multiplication using different implementations

Below are the mean and standard deviation for the four different implementations on the repeated(500 times) execution on the matrix of same size, which clearly shows the similar performance of MKL and OpenBLAS Library. But our pthread implementation does not match their performance. It is more close to the normal convolution but little better than it as now, there are multiple cores working on a single problem of matrix multiplication.

	Normal Convolution	MKL Library	OpenBlas Library	Pthreads Implementation
Mean	0.00364517	0.00019351	0.00019351	0.00252567
Standard Deviation	0.00085551	5.9966E-05	5.6906E-05	0.00064802

Below is the data for the four implementations executed on different sized matrices (1-300) which gives similar inferences as above

	Normal Convolution	MKL Library	OpenBlas Library	Pthreads Implementation
Mean	2.03E-01	2.79E-03	3.98E-03	1.84E-01
Standard Deviation	0.206982321	0.00235683	0.00354337	0.18303028