

Medium datasets: (2 datasets fully functional, should find more benchmarking dataset)

==> nnz size: 10^5 - 10^6 , blksize maximum = 32

- syn_data_med_10000_1000_0.01_sp converges with: b = 16, s = 64,
b = 32
b = 64

- phishing: always converges, nicely

- a8a: b = 32, s = 128 diverges for nystrom s-step, converge only on blksize = 16

“a8a dataset with blksize = 20, s = 100, and it seems that s-step nystrom converges faster”

- a7a.test: b = 32, the dataset converges (should have less blksize, but if blksize = 64, diverges)

Large datasets: (3 datasets functional)

==> nnz size: 10^6 - 10^7 , blksize maximum = 64

- syn_data_med_10000_200 converges with: b = 16, s = 64, 128, 256.
b = 32, s = 64, 128
b = 64, s = 64
b = 128, s = 64

(I should consider this as large because the size of nnz is large)

- syn_data_large_30000_1000_0.1_sp: converges for blksize 32, blksize 16, blksize 64, s = 64

- syn_data_large_10000_2000_0.1_sp: b = 64, s = 128 (run for 3 hours)

(Currently, there is no other benchmarking large datasets that is not synthetic)

Small datasets: (3 datasets functional)

==> nnz size: 10^4 - 10^5 , blksize maximum = 32

- syn_data_small_5000_20_0.1_sp: converge at b = 32, s = 128

- abalone: converge at b = 32, s = 128 (Original Krr fail to converge, accuracy stay around $1e-12$, like $1.8e-12$ but no less)

- space_ga_scale: converge at b = 32, s = 128

- a1a: converge at b = 32, s = 128

Extreme small datasets: (2 datasets fully functional)

==> nnz size: less than 10^4 , blksize maximum = 16

- breast-cancer_scale: always converges

- pyrim_scale: always converges

- triazines_scale: only converge at blksize = 1

We could try merging them to two classes: (small & extreme small vs. medium & large datasets)