Table 1. Comparison of stochastic Lanczos quadrature (SLQ, with degree l, s Monte Carlo samples, and full re-orthogonalization), MEMDET, and FLODANCE on a dense 500,000 $\times$ 500,000 NTK matrix for a ResNet50 model trained on CIFAR-10 with 50,000 datapoints. MEMDET computes the exact log-determinant and serves as the benchmark, with relative errors of other methods measured against it. Costs and wall time are based on an NVIDIA H100 GPU ($2/hour) and an 8-core 3.6GHz CPU ($0.2/hour) using Amazon pricing and include NTK formation from a pre-trained network.

Method		TFLOPs	Rel. Error	Est. Cost	Wall Time
Name	Settings				
SLQ	$l = 100,\ s = 104$	5203	55%	$83	1.8 days
MEMDET	LDL, $n_b = 32$	41,667	**0%**	$364	8.8 days
FLODANCE	$n_s = 500, q = 0$	**0.04**	4%	$0.04	1 min
FLODANCE	$n_s = 5000, q = 4$	41.7	**0.02%**	$4	1.5 hr