

Table 5: Comparison of wall runtimes of various approximations of the log-determinant  $\hat{\ell}_n$ .

Quantity	Model	Configuration	ResNet9	ResNet9	ResNet18	MobileNet
	Dataset		CIFAR-10	CIFAR-10	CIFAR-10	MNIST
	Subsample Size		$n = 1000$	$n = 2500$	$n = 1000$	$n = 2500$
Runtime (seconds)	Direct Computation (16-bit)		6.69	49.35	5.50	70.90
	Direct Computation (32-bit)		7.08	49.39	5.87	54.05
	Direct Computation (64-bit)		7.09	51.57	5.97	51.22
	Block Diagonal		0.00376	0.00982	0.00342	0.00855
	SLQ		8.904	67.70	22.18	148.80
	Pseudo NTK		0.0151	0.0776	0.0149	0.0828
	FLODANCE	$n_0 = 1, n_s = 50$	0.0085	0.0088	0.0089	0.0091
	FLODANCE	$n_0 = 1, n_s = 100$	0.0176	0.0186	0.0168	0.0175
	FLODANCE	$n_0 = 300, n_s = 500$	0.377	0.350	0.354	0.376