Table A.1. Common notations used throughout the manuscript.

Context	Symbol	Description	Example Value
Dataset	n	Number of data points (e.g., images)	50,000 for CIFAR-10
	d	Number of model outputs (e.g., classes, labels)	10 for CIFAR-10
	m	Size of NTK matrix is $m \times m$ where $m = nd$	500,000 for CIFAR-10
MEMDET	n_b	Number of row/column blocks (i.e., n_b^2 blocks in total)	e.g., 16
	b	Block size; typically $b \approx m/n_b$, for $b \times b$ submatrices	e.g., 31,250
	c	Available memory capacity (in bytes)	
	β	Precision (in bytes) of a floating-point number	
FLODANCE	n_s	Number of sampled data points from n	e.g., 2000
	m_s	Size of sampled NTK matrix $m_s = n_s d$	e.g., 20,000
	n_0	Start of fitting interval $[n_0, n_s]$	e.g., 100
	q	Truncation order of Laurent series	e.g., 3
SLQ	l	Lanczos iterations (degree of Krylov subspace)	e.g., 100
	s	Number of Monte Carlo samples	e.g., 100
Variables	$\mathbf{K}_n$	NTK matrix with n data points (matrix of size m)	
	$\mathbf{K}_{n_s}$	Sampled NTK matrix with n_s data points (matrix of size m_s)	
	ℓ_n	Log-determinant of NTK with n data points (matrix of size m)	
	$\hat{\ell}_n$	Estimated log-determinant	
	L_n	Normalized log-determinant $L_n = n^{-1}\ell_n$	
Functions	pdet	Pseudo-determinant (product of nonzero eigenvalues)	
	logabsdet	Natural logarithm of the absolute value of determinant	