

1 Notation

The notation used throughout this thesis is summarized below

x	A scalar
\mathbf{x}	A vector
\mathbf{X}	A matrix
\mathbf{x}_i	The i th element of a vector \mathbf{x}
\mathbf{X}_{ij}	Element located at row i column j in matrix \mathbf{X}
\mathbb{R}	The set of real numbers
\mathbb{R}^n	The set of n -dimensional vectors of real numbers
$\mathbb{R}^{n \times m}$	The set of $n \times m$ -dimensional matrices of real numbers, where n is the amount of rows and m is the amount of columns
$ \cdot $	Cardinality
∇f	Gradient of f
$\nabla_{\mathbf{x}} f$	Gradient of f with respect to \mathbf{x}
$\frac{\partial y}{\partial x}$	Partial derivative of y with respect to x
\mathcal{O}	Big O-notation
\odot	Element-wise multiplication
$\mathcal{N}(\mu, \sigma^2)$	Normal/Gaussian distribution with mean μ and standard deviation σ^2
$D(a, b)$	An arbitrary distance function, that computes the distance between a and b
$L(a, b)$	An arbitrary loss function, that computes the loss between a and b