Notation

The notation used throughout this thesis is summarized below

x	A scalar
$\boldsymbol{x}$	A vector
$\boldsymbol{X}$	A matrix
$\boldsymbol{x}_i$	The ith element of a vector $\boldsymbol{x}$
$\boldsymbol{X}_{ij}$	Element located at row i column j in matrix $\boldsymbol{X}$
$\mathbb{R}$	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
$\lvert \cdot \rvert$	Cardinality
∇f	Gradient of f
$\nabla_{\boldsymbol{x}} f$	Gradient of f with respect to $\boldsymbol{x}$
$\frac{\partial y}{\partial x}$	Partial derivative of y with respect to x
$\mathcal{O}$	Big O-notation
$\odot$	Element-wise multiplication
$\mathcal{N}\left(\mu, \sigma^2\right)$	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