AutoML Lecture: Notation Cheat Sheet

Symbol	Meaning
p	Hyperparameter
λ	Hyperparameter configuration
λ_{def}	Default hyperparameter configuration
λ^*	finally returned hyperparameter configuration
$\boldsymbol{\Lambda}$	Space of possible hyperparameter configurations (incl. different architectures of an NN)
$\mathcal{A}$	Algorithm
$\mathbf{A}$	Distribution or set of algorithms
$\mathcal{D}$	Dataset
$\mathbf{D}$	Space of datasets
$\mathcal{L}$	(empirical) loss
f	Target function
$\hat{f}$	(Probabilistic) surrogate model
$\mathcal{H}$	Observation history (e.g., in BO)
$\mathbf{f}$	Vector of (meta-) features
$\mathcal{F}$	Space of (meta-)features
$\mathbf{h}$	Cluster
$\mathbf{H}$	Space of clusters
$\mathcal{P}$	Portfolio (i.e., discrete set) of algorithms or hyperparameter configurations
$\mathcal{S}$	Schedule of algorithms or hyperparameter configurations
θ	Weights (a.k.a. parameters) of ML model (e.g., DNN)
ϕ	Weights of meta-model
$\mathcal{D}_{\text{meta}}$	Meta-dataset
π	Reinforcement learning policy
Π	Space of policies
a	action in RL-setting
s	state in RL-setting
$\mathcal{S}$	Space of states
r	Reward in RL-setting
$\mathcal{R}$	Random variable or function of reward
κ	Cutoff (often runtime) of an algorithm run
i	a single instances (a.k.a. problem, dataset, task)
$\mathcal{I}$	Distribution over instances (a.k.a. problems, datasets, tasks)