Sampling strategies in automated algorithm configuration

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A The algorithm to configure

$T_{\mathbf{cut}}$ Target algorithm cutoff time

Ω The set of valid configurations

ω A valid configuration from Ω

$\omega_{\mathbf{inc}}$ The current best known configuration

$\omega_{\mathbf{ch}}$ A challenger configuration to evaluate

$\mathcal{P}$ A parameter from the configuration space Ω

$\mathcal{D}$ The domain of possible values of a parameter

$\mathcal{I}$ A set of problem instances

I A single instance

$\mathbf{f}$ The feature values of an instance I

rt The running time of an algorithm applied with a specific configuration ω on a specific instance I

$\mathcal{M}$ Performance of the algorithm at hand, applied with a specific configuration ω on a set of instances $\mathcal{I}$ (typically $\mathcal{M} = rt$)

$\mathcal{C}$ A set of configurators

C A configurator

LIST OF SYMBOLS

$\mathcal{K}$ A set of configuration scenarios

K A configuration scenario

C_{thres} a confidence threshold to take a decision