

Cartesian Abstractions and Saturated Cost Partitioning in Probabilistic Planning

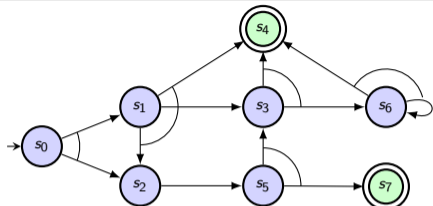
Thorsten Klößner, Jendrik Seipp, Marcel Steinmetz



UNIVERSITÄT
DES
SAARLANDES



Compute Abstract Policy

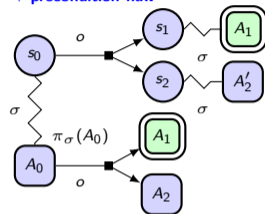


Find Flaw

$\exists v. pre_o[v] \in dom(v, A_0)$

but $s_0[v] \neq pre_o[v]$

→ precondition flaw



$\exists v. G[v] \in dom(v, A_1)$

but $s_1[v] \neq G[v]$

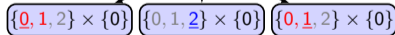
→ goal flaw

$A'_2 \neq A_2$

→ spurious transition

Refine Abstraction

$pre(v) = 1$ $\{0, \underline{1}, 2\} \times \{0\}$



$post(v) = 0$

$\in \{0, \underline{1}\}$

$post(v) = 2$

$\in \{2\}$

$post(v) = 1$

$\in \{0, \underline{1}\}$