Deadline-Aware Search Using On-line Measures of Behavior

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Find The Best Possible Solution Within An Unknown Deadline

Korf's 100 15 Puzzles

Solution Quality

Log10 raw cpu time

AwA*

Jordan Thayer (UNH)
Anytime Algorithms Ignore The Deadline

The Setting

The Problem

Performance

Anytime Algorithms

70 Expansions Remaining
7 Expansions Remaining

Current effective methods do not change behaviour based on the deadline.

The deadline should inform search decisions!

Deadline Aware Search

f = 15  f = 10
d = 5   d = 50
DAS Performance

Dynamic Robot 500x500 (75 Lines)

Solution Quality

Deadline (seconds)

1.0
0.9
0.8

DAS
ARA* (wt=3.0)
ARA* (wt=1.5)
CS

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