The Scanalyzer Domain: Greenhouse Logistics as a Planning Problem

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Abstract

We introduce the Scanalyzer planning domain, a domain for classical planning which models the problem of automatic greenhouse logistic management.

At its mathematical core, the Scanalyzer domain is a permutation problem with striking similarities to common search benchmarks such as Rubik's Cube or TopSpin. At the same time, it is also a real application domain, and efficient algorithms for the problem are of considerable practical interest.

The Scanalyzer domain was used as a benchmark for sequential planners at the last International Planning Competition. The competition results show that domain-independent automated planners can find solutions of comparable quality to those generated by specialized algorithms developed by domain experts, while being considerably more flexible.