

# Research Review

- Author: Xin Chen
- Email: Bismarrck@me.com

## 1. STRIPS

Developed by Fikes and Nilsson<sup>1</sup> in 1971 at SRI International, **STRIPS** (Stanford Research Institute Problem Solver) is the first major automated planning system. The same name was later used to refer to the formal language of the inputs to this planner<sup>2</sup>.

## 2. WARPLAN

Introduced by Wardinger and Warren in 1974<sup>3</sup>, **WARPLAN** is the first planner written in a logic programming language (Prolog). It uses promotion and chronological backtracking to solve the Sussman anomaly optimally. It contains only 100 lines of code.

## 3. A\*

**A\*** is one of the most widely used pathfinding and graph traversal algorithms in computer science. It was first described in 1968 by Peter Hart, Nils Nilsson and Bertram Raphael<sup>4</sup> of SRI International. **A\*** is a modification of the famous Dijkstra's Algorithm (Uniform Cost Search) but can only find paths to one location.

## References

1. Richard E. Fikes, Nils J. Nilsson (Winter 1971). "STRIPS: A New Approach to the Application of Theorem Proving to Problem Solving" (PDF). *Artificial Intelligence*. 2 (3–4): 189–208. doi:10.1016/0004-3702(71)90010-5
2. <https://en.wikipedia.org/wiki/STRIPS>
3. <https://web.stanford.edu/class/linguist289/p37-colmerauer.pdf>
4. Hart, P. E.; Nilsson, N. J.; Raphael, B. (1968). "A Formal Basis for the Heuristic Determination of Minimum Cost Paths". *IEEE Transactions on Systems Science and Cybernetics SSC4*. 4 (2): 100–107. doi:10.1109/TSSC.1968.300136.