

Project Proposal

Project Problem:

The 8-puzzle is a sliding puzzle consisting of a 3×3 grid with 8 numbered tiles and one empty space. The objective is to arrange the tiles from an initial configuration to a goal configuration (typically with numbers 1-8 in order and the empty space in the bottom-right corner) by sliding tiles into the empty space.

Problem Description:

The 8-Puzzle problem is a classic artificial intelligence problem that consists of a 3×3 grid containing 8 numbered tiles (from 1 to 8) and one empty space (blank).

Required Algorithms:

Uninformed Search Strategies

- Breadth-First Search (BFS)
- Depth-First Search (DFS)
- Uniform-Cost Search (UCS)
- Iterative Deepening Search (IDS)

Informed Search Strategies

- A*
- Hill Climbing
- Greedy Best-First Search