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REVIEWER'S REPORT

Manuscript No.: IJAR-56234

Title: Comparison of Heuristic Search Algorithms in Solving 11-puzzle Problems,

Recommendation:

Accept as it is .....

Accept after minor revision Yes

Accept after major revision .....

Do not accept (*Reasons below*).....

Rating	Excel.	Good	Fair	Poor
Originality		yes		
Techn. Quality	yes			
Clarity		yes		
Significance	yes			

Reviewer Name: Dr. Bharti Bisht

Detailed Reviewer'sReport

The manuscript titled "Comparison of Heuristic Search Algorithms in Solving 11-Puzzle Problems" presents a well-structured and technically sound comparative study of the A* and IDA* algorithms using the Manhattan distance heuristic on a mid-complexity puzzle domain. The topic is relevant to the field of artificial intelligence and heuristic search, and the paper clearly identifies a research gap by focusing on the 11-puzzle, which is less explored compared to the traditional 8-puzzle and 15-puzzle. The objectives are clearly stated, and the methodology is rigorous, including the generation of a large number of solvable puzzle instances, uniform implementation conditions for both algorithms, and the use of multiple performance metrics such as nodes generated, nodes expanded, effective branching factor, CPU time, and solution depth. The experimental design is reproducible and statistically reliable, and the results are presented in a logical and analytical manner with appropriate graphical support. The findings showing the computational superiority of A* in terms of time efficiency and search-space reduction, along with the memory advantage of IDA*, are consistent with theoretical expectations and prior studies, thereby strengthening the validity of the work. The discussion successfully links the empirical results with existing literature and highlights the suitability of the 11-puzzle as a benchmark for mid-scale heuristic search evaluation. However, minor improvements are required in terms of language polishing, formatting consistency, and clearer explanation of the hardware configuration (e.g., clarification of GPU relevance for CPU-time measurement). The paper may also be strengthened by including memory consumption as an explicit quantitative metric, providing complexity analysis, and briefly discussing practical application domains of the findings. Overall, the manuscript offers a meaningful academic contribution with strong methodological depth and clear empirical validation, and it is suitable for publication after minor revision for language, presentation, and additional clarification in a few sections.