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Theory Assignment

School of Computer Engineering and Technology

Subject: Artificial Intelligence and ML Techniques

Program: B.Tech. - CSF

Class: T.Y.

Date of assignment: 11th Sept 2023

Date of Submission: 25th Sept 2023

1. Explain the classification of environments in detail and explain PEAS analysis for automated taxi agent. [5 marks]

2. Derive 3 different heuristic functions to solve 8 puzzle problem and Explain admissibility property of A* algorithm in detail. [5 marks]

3. Explain the Minimax Algorithm with Alpha-beta pruning. [5 Marks]

4. Explain Local Search Algorithm. Solve travelling salesman problem using local search algorithm. [5 Marks]

5. Assume that the nodes are expanded in alphabetical order when no other order is specified by the search, and that the goal is state G. No visited or expanded lists are used. What order would the states be expanded by each type of search? Stop when you expand G. Write only the sequence of states expanded by each search (BFS, DFS, Uniform Cost Search). [5 Marks]