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Enunciation on Complexities of Selected Tree Searching Algorithms

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Abstract : Searching trees is a most interesting application of Artificial Intelligence. Over the period of time, many innovative methods have been evolved to better search trees with respect to computational complexities. Tree searches are difficult to understand due to the exponential growth of possibilities when increasing the number of nodes or levels in the tree. Usually it is understood when we traverse down in the tree, traverse down to greater depth, in the search of a solution or a goal. However, this does not happen in reality as explicit enumeration is not a very efficient method and there are many algorithmic speedups that will find the optimal solution without the burden of evaluating all possible trees. It was a common question before all researchers where they often wonder what algorithms will yield the best and fastest result The intention of this paper is two folds, one to review selected tree search algorithms and search strategies that can be applied to a problem space and the second objective is to stimulate to implement recent developments in the complexity behavior of search strategies. The algorithms discussed here apply in general to both brute force and heuristic searches.

Keywords : trees search, asymptotic complexity, brute force, heuristics algorithms
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