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The Analytical Study of Artificial Intelligence in Marketing

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Introduction

One way of problem solving is to use breadth-first search (BFS). In this, the rules are formed in a connected network where the current node on the network is represented on the right-side state-ment and the edges

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It is using search techniques from the rules that can be derived based on the domain knowledge of a particular problem or game, one can derive a solution for a predefined problem statement. It is required to use a useful and efficient data structure to store the intermediate states such that the solution can be traversed using the search process in a deterministic time. Also, using good data structures can ensure the correctness of the solution to a problem. Production systems are structures that facilitate Al programs description and efficient search capability to achieve a feasible solution. Though production system contains the word "production" in it, however it has a distinct meaning in the context used in industries. A production system consists of a set of rules, each of which contains left-side statement which signifies the appropriate setting to the problem and right-side statement which shows the operation to execute in the program in the available environment.

Abstract

Key words:- Prdeterministic, Solution, Appropriate, Capability



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are represented on the left- side statement and these edges represent the connection between the nodes. Using BFS for navigating or traversing through the tree structures the information about the solution and leads to better exploration. It begins at the tree root, and investigates the majority of the neighboring hubs at the present node before proceeding on to other level nodes at the following traversal level. It utilizes the system contrary to depth-first search (DFS), which rather investigates the traversing nodes first before being required to back-track and extend deeper into the tree.

As discussed earlier, an essential step that one should follow is to traverse through a set of rules designed to approach the solution. Such requirements can be addressed using heuristic techniques as they help us to predict solution in an efficient manner. In heuristics, the construction of control structure is not guaranteed to find the exact solution; however, it finds a very good solution. It targets efficiency for improving search on the cost of completeness. Heuristics can be relatable with tour guide, they are good at interesting scopes but suffer the loss of an attendant's interest. Though there is a possibility to produce nominal results without the use of heuristics, but heuristics can help improve selecting the best rules for moving towards the desired solution.1

One simple example is the "travelling salesman problem", where the traveler should travel in all cities and return to original starting point/city with minimum cost. The problem is challenging due to related properties of non-determinism of solution in each step. Such a problem has the initial approach to brute-force all possible traversals, which degrade the efficiency in achieving the solution. Heuristic approach applied on these types of problems increase the efficiency to approach the solution close to exponential time.

Heuristics provide an upper bound even in case of exceptions handled in the process. Commonly used heuristics such as -nearest neighbor provides upper bound to an exception as an assurance for cost in correctness compared to performance measured while capturing results. The requirement of assurance measures is mainly due to the following reasons.2

In practical scenarios, it is difficult to predict the accurate value for achieving the goal. In the travelling salesman problem, if a traveler can repeat his/her visit to a city, then this will intro-

duce non-determinism in acquiring the solution.

Another characteristic of practical scenarios is usefulness of heuristic approach related to unstructured available data in knowledge base. The collected data is unstructured, which makes the problem impossible to find valid steps without using mathematical foundation.



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Review of Literature

- According to Sharma PB 2020- This innovation utilizes content investigation to comprehend the sentence structures. It has related importance and specific goal via measurable tech-niques and machine learning. Textual examination and natural language processing are presently utilized for privacy and to achieve more secure frameworks and extortion reception. They are additionally being utilized by an immense range of mechanized partners and appli cations to extricate semi-structured information.³
- According to Gupta DK 2021- This is a manifestation of Al where the raw data is trans-formed using computational capability into human understandable text. The generated text is interpretable by normal humans familiar with the language. This domain had achieved significant accuracy and relates an interface to communicate between computers to humans.

According to Nisha Saxena 2022- This is another manifestation of Al where the input voice is converted into text using Al techniques. Speech recognition application is able to capture human spo-ken words and converts this into textual format. Speech recognition is a domain of voice recognition used to identify the voice of a particular individual. Al-enabled speech recogni-tion software are available by many tech giants and are used by people in their daily lives to query their requirements.

• According to Singh Peeyush 2022- Artificially intelligent machines are able to introduce steps and logic to perform crucial decisions related to an individual or any particular organization. It requires initial setup/training, ongoing maintenance, and tuning to help make crucial deci sions. This system is prevalent in various organizational software to help and perform auto-mated decisions, which may even result in increasing the organization's profits. It is also able to recommend decisions taken by organizations to accomplish certain goals and show



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their competitiveness in the market.

Objectives of the Study

- It is currently, industrial production uses robotic automation process to produce commodities and then test these produced goods.
- These applications use minimal human intervention and support quality production of goods.
- Automation gives you a chance to benefit as much as possible from your human ability and move workers into increasingly.
- It utilizes scripts and strategies that mirror and mechanize human undertakings to help corporate procedures.
- It is especially helpful for circumstances when contracting people for a particular employment or when the assignment is excessively costly or inefficient.

Methodology

• It is uninformed search is also known as unguided search or blind search. Uniformed search is a group of algorithms which typically work by brute force. By the term brute force, we mean that it checks each and every single element along its way to get to the solution. By the term uni-formed, we point to the fact that the general algorithms we use have no extra information about the states, apart from the information that is provided in the problem definition. We can only differentiate between the final state and non-final state using this algorithm.4 Also, we can gener-ate successors through them. These algorithms are used in a number of search problems,5 and have provided great insight into them. Some of the uninformed search6 algorithms are discussed in the following subsections.



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Data Analysis and Interpretation

There are many techniques available to evaluate capital expenditure proposals. All these techniques may not be useful in evaluation of all kinds of projects. One has to choose an appropriate criterion for acceptance or rejection. The selection may be based on the simplicity of criteria, data requirement, criticality of decision and effectiveness.

Do You Know Artificial Intelligence It is related Marketing Table-1.1

Respondents	Artificial Intelligence	Marketing
Male	65	70
Female	35	30
Total	100	100



Table 1.1 Has displayed two respondents Male and Female Male has Artificial Intelligence 65 and Marketing 70, Female Artificial Intelligence 35 and Marketing 30 show it applied percentage method.



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Findings of the Research

- The greedy best first search explores the node that lies closest to the goal, on the basis that it will lead to the solution the soonest.
- The evaluation criterion in this algorithm for every node is the heuristic function, So, if we want to calculate the shortest path to a city through different connected nodes..
- Also, h ad is correlated with the actual road distances. The algorithm is called greedy because at each step, it will try to reach the goal and minimize the distance.
- Similar to DFS, the greedy best first search is incomplete. The time complexity of the greedy best first search is similar to that of BFS.

Conclusion

The problems that fall within the purview of artificial intelligence (AI) are too complex and require appropriate search methods. In this chapter, we discuss the different heuristic search methods that can be described independently of any particular task or problem domain. These methods are problem dependent and their efficiency is dependent on the way they use domain specific knowledge to overcome combinatorial explosion problem common with most search processes. These techniques provide the framework into which domain specific knowledge can be placed, either by hand or as a result of automated learning.



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