

Learning - knowledge, behavior, skills, values or preferences

Perceiving - aware or conscious of something

Communication – human language

Decision Making - identifying and choosing alternatives

Planning - achieve a desired goal

Artificial Intelligence - technology which allow the machine to mimic a human behavior or activities in terms of intelligence

Alan Turing - Father of Computer

John McCarthy - Father of Artificial Intelligence, started on 1956, AI in summer is the Dartmouth Artificial Intelligence Conference

Machine Learning - And we use algorithms to learn a pattern and extract the required roles by itself, Structured Data - Tables, Columns, Rows

Computer Vision - The ability for the machine or program to describe images

Natural Language Processing - A technology which allows the machine to understand and process our natural language like a text

Speech Recognition - One of the fields that will be completely able to understand our natural language and convert it into the right thing

Questions

Gather Data - The second step in AI development process, the AI consultant will _____ and the client will provide the necessary data for developing the AI system

Clean Data - After gathering the data, we need to _____ because the data might have some errors, missing values, duplicate rows

Training data & testing data / data sets - In the AI development process the data will be divided into two sets, what are those sets called?

Regression - Used if the dependent variable (Y) is a continuous value

Classification - Used if the dependent variable (Y) is a categorical value

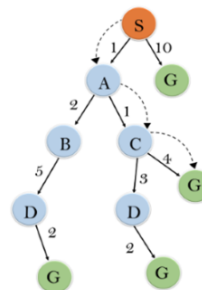
Classification - Predicts the category the data belongs to.

Breadth-first Search - This algorithm provides solutions if any solutions exists

Breadth-first Search - This algorithm is implemented using a queue data structure

Depth-limited search - The advantage of this algorithm is it is memory efficient

Uniform Cost Search - The priority queue implements this algorithm.



Initialization: ((S, 5))

Iteration1: ((S--> A, 4), (S-->G, 10))

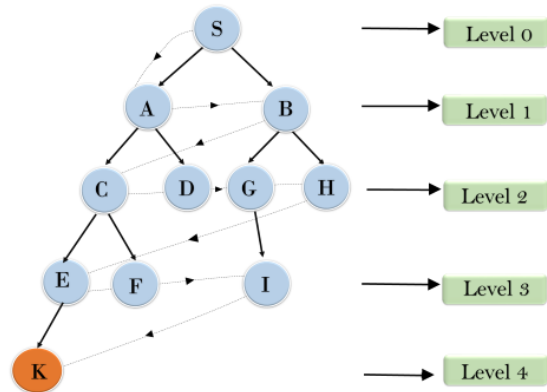
Iteration2: ((S--> A-->C, 4), (S--> A-->B, 7), (S-->G, 10))

Iteration3: ((S--> A-->C-->G, 6), (S--> A-->C-->D, 11), (S--> A-->B, 7), (S-->G, 10))

Iteration 4 will give the final result, as S-->A-->C-->G it provides the optimal path with cost 6.

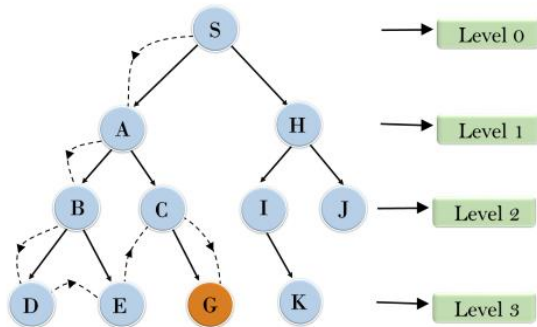
S----> A---->B---->C---->D---->G---->H---->E---->F---->I---->K

Breadth First Search

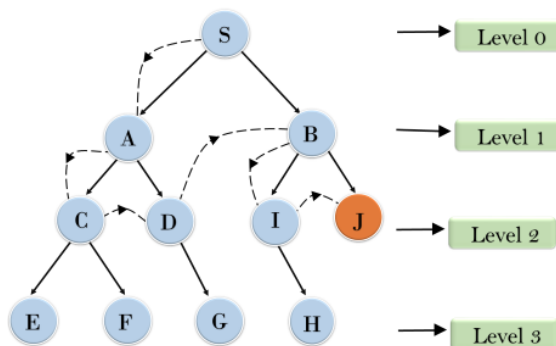


Root node---->Left node ----> right node.

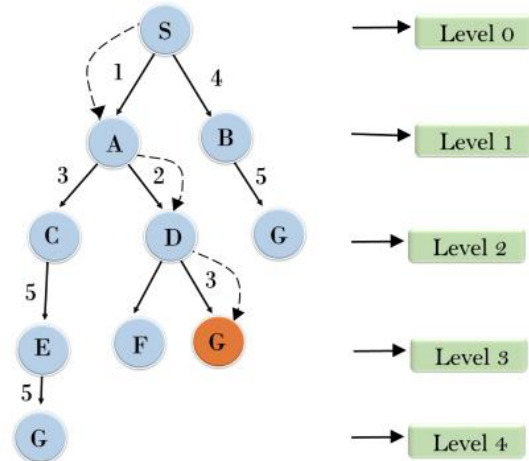
Depth First Search



Depth Limited Search



Uniform Cost Search



Types of Search Algorithms

Informed

- A* Search
- Best First Search
- Ao* Algorithm
- Problem Reduction
- Hill Climbing

Uninformed

- Breadth First Search
- Uniform Cost Search
- Depth First Search
- Depth Limited Search
- Iterative Deeping Depth
- First Search
- Bidirectional Search