

Artificial Intelligence

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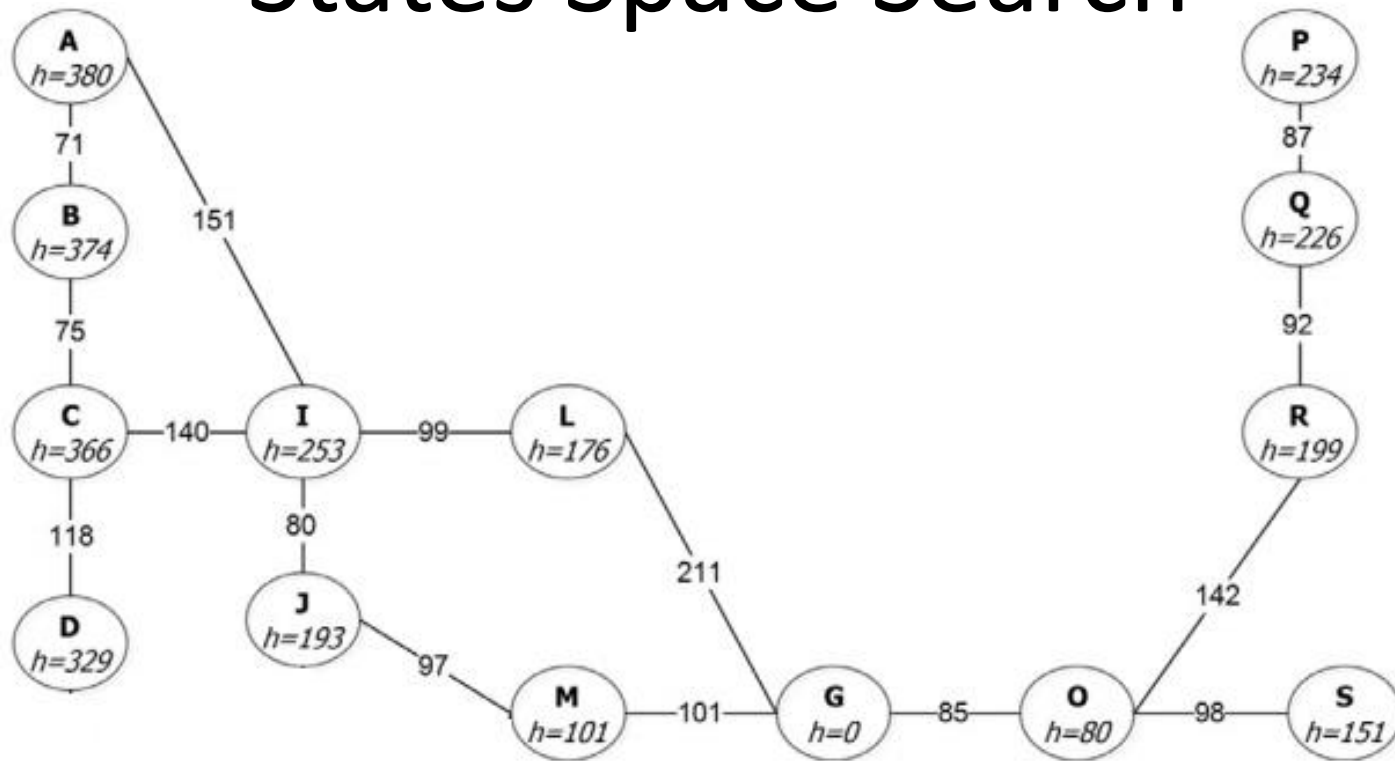
Propositional logic

- $(P \rightarrow Q) \wedge \neg Q \rightarrow \neg P$
- $(P \vee Q) \wedge (P \rightarrow R \wedge Q) \wedge (S \rightarrow \neg R \wedge P)$
- $(P \vee Q \rightarrow R) \vee P \vee Q$

First order logic

- $\forall x \forall y : \text{Dogs}(x) \wedge \text{Cat}(y) \rightarrow \text{Archenemy}(x,y)$
- $\exists x : \text{PC}(x) \rightarrow \text{MasterRace}(x)$

States Space Search



- Find path from A \rightarrow G
- Find path from D \rightarrow G
- Algorithms:
 - A*
 - DFS
 - BFS
 - Greedy

Decision Tree Learning

No.	Alternate	Hungry	Patrons	Type	Target Wait
1	T	T	Some	French	T
2	T	T	Full	Thai	F
3	F	F	Some	Burger	T
4	T	T	Full	Thai	T
5	T	F	Full	French	F
6	F	T	Some	Italian	T
7	F	F	None	Burger	F
8	F	T	Some	Thai	T
9	F	F	Full	Burger	F
10	T	T	Full	Italian	F
11	F	F	None	Thai	F
12	T	T	Full	Burger	T