

1. Briefly, and concisely, explain what a script is and describe the basic components of a script.

A script demonstrates interactions between players of a certain ~~senario~~ scenario. An example of a scenario would be a restaurant. A script also give the players. i.e., waitress, ~~customer~~ customer, cook. It also gives post & pre conditions. i.e., Pre: Customer has \$ & customer is hungry. A script also gives the interactions to cause the post conditions to become true. i.e., waitress takes customer's order.

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pumps

2. Briefly, and concisely, describe cellular automata and their behavior.

Cellular automata is a type of agent used in supervised learning. They are autonomous & to whom they do not know about any other automata. They run simultaneously. Once ~~one~~ one automata finds the goal state they all quit.

~~3.~~ Completely, and concisely, describe the perceptron training algorithm.

4. Symbol based learning systems use *generalization* and *specialization* operations on symbolic expressions while processing training data. Explain both operations and give an example of each.

generalization is used to make a set of training data become as general as possible.

Ex. if given a positive example $\text{obj}(\text{red}, \text{small}, \text{ball})$
the generalization would be $\text{obj}(X, Y, Z)$.

if given a negative example $\text{obj}(\text{blue}, \text{small}, \text{ball})$
the generalization would now become $\text{obj}(\text{red}, Y, Z)$.

if

specialization is used to make a set of data become as specific as possible. ✓

Ex. if given a positive example $\text{obj}(\text{red}, \text{small}, \text{ball})$
the specification would be $\text{obj}(\text{red}, \text{small}, \text{ball})$

if given another positive example $\text{obj}(\text{blue}, \text{small}, \text{ball})$
the specification would be $\text{obj}(X, \text{small}, \text{ball})$

replaces constants
w/ variables

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5. Indicate, in the space provided, if the following statements are true or false. If false, briefly explain why.

T A frame, by itself, has no temporal aspect.

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F The ID3 algorithm builds a decision tree from the ~~leaves up~~ root down.

F Every living person has a complete and detailed Opera script.

F A linearly separable function ~~cannot~~ be solved with a perceptron.

T Clustering algorithms are a form of unsupervised learning.

6. Fill in the blanks with the appropriate answer from the choices given.

- i) A Semantic network represents knowledge as a graph.
- frame
- generalization
☒ - semantic network
- perceptron
- ii) Conan will **never** pass this class.
- Tom
- Dick
- Harry
☒ - Conan
- iii) Replacing constants with variables is a form of Generalization.
- elimination
☒ - generalization
- specialization
- reinforcement
- iv) If concept p is more general than concept q , then p Covers q .
- replaces
☒ - covers
- entropies
- biases
- v) Candidate elimination uses both specific-to-general and general-to-specific approaches to learning.
☒ - Candidate elimination
- Backpropagation
- Reinforcement
- Planning