

Learning from Observations

Chapter 18

Section 1 – 3

Learning

- Learning is essential for unknown environments,
 - i.e., when designer lacks omniscience
- Learning is useful as a system construction method,
 - i.e., expose the agent to reality rather than trying to write it down
- Learning modifies the agent's decision mechanisms to improve performance

Learning element

- Design of a learning element is affected by
 - Which components of the performance element are to be learned
 - What feedback is available to learn these components
 - What representation is used for the components
- Type of feedback:
 - Supervised learning: correct answers for each example
 - Unsupervised learning: correct answers not given
 - Reinforcement learning: occasional rewards