

Probabilistic Temporal Reasoning Study Guide (AIMA 14)

Artificial Intelligence

1 Probabilistic Temporal Reasoning

1. You are creating discrete-time model for a system that changes approximately every minute. What is a good value for the time interval, Δ , between time slices?
2. What is the general equation for the Markov assumption in a first-order Markov transition model over the variables \mathbf{X}
3. What is the general equation for for the Markov assumption in a second-order Markov transition model over the variables \mathbf{X}

4. Describe the four basic inference tasks in probabilistic temporal models.

5. Give an example of each kind of basic probabilistic temporal inference task.