Week 11 Quiz

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Multiple Choice

1/1 point (graded)

In a hidden Markov model, the "hidden" portion corresponds to the _____.

- observation sequence
- state transition sequence ✔
- timestamp sequence
- location sequence

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Multiple Choice

1/1 point (graded)

When we say "discrete HMM" the word "discrete" is referring to _____.

- a sequence indexed by a discrete set of time points.
- a sequence of discrete valued observations. ✔
- a sequence over a discrete set of hidden states.

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Multiple Choice

1/1 point (graded)

True or False: A continuous hidden Markov model can be thought of as a Gaussian mixture model with a Markovian transition property between clusters.

- (●) TRUE ✔
- ( ) FALSE

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Multiple Choice

1/1 point (graded)

The forward-backward algorithm used for state (1), while the Viterbi algorithm is used for state (2).

- (●) (1) estimation, (2) sequence learning ✔
- ( ) (1) sequence learning, (2) estimation

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Multiple Choice

1/1 point (graded)

In using the EM algorithm to estimate the HMM, we are integrating out _____.

- ( ) the initial state distribution
- ( ) the Markov transition matrix
- ( ) the emission distribution parameters

- (•) the state transition sequence ✔

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Checkboxes

1/1 point (graded)
As discussed in class, in a continuous state Markov model, which of the following are not learned?

- [x] the state transition distribution
- [x] the observation distribution
- [ ] the hidden state sequence
- [x] the initial state location

✔

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Text Input

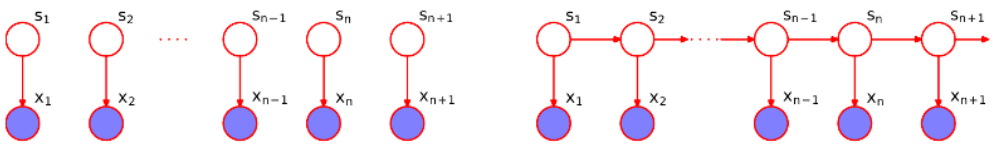
4.0/4.0 points (graded)
Looking at the figure below, consider the following four models we discussed in the lectures:

1. Gaussian mixture model

2. Probabilistic PCA

3. Continuous HMMs

4. Linear Gaussian Markov models



(a) (b)

In the continuous state case, enter the number of the model that corresponds to

(a)

2 ✔

2

(b)

4 ✔

4

What about the discrete state case?

(a)

1 ✔

1

(b)

3 ✔

3

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