Probabilistic Graphical Models

Lab Questions
CSE 627A: Machine Learning

December 14, 2018

Name: _____

These questions are to help me verify that you get what I want you to learn out of our labs.

1. (0 points) What are Graphical Models?

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2. (0 points) What are the 3 types of graphical models?

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3. (0 points) Name any potential application area of PGM?

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4. (0 points) What does a node represent in graph of PGM?

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5. (0 points) Which type of graph is used by Markov Random Fields?

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6. (0 points) What is the difference between Bayesian Network and Markov Random Field?

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7. (0 points) What is a CLIQUE?

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8. (0 points) Write the formula for joint distribution over maximal cliques of the graph.

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9. (0 points) What is a potential function?

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10. (0 points) What is image de-noising used for?

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11. (0 points) What is Ising Model?

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12. (0 points) What is Moralization?

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13. (0 points) What is a factor graph?

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14. (0 points) How are variables and factors represented in graphs?

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15. (0 points) Why are factor graphs called bipartite?

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16. (0 points) What library is used to draw (factor)graphs in python?

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17. (0 points) What algorithm is also called belief propagation?

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18. (0 points) How to trace forward and backward path from root node while using inference algorithms (sum-product) on factor graph?

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19. (0 points) How do you differentiate Max Sum algorithm with Sum Product algorithm?

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