MODULE 8 QUIZ 3

* Required

Email *

Your email

Name *

Your answer

FMML ID *

Your answer

1. P(Event | Feature 1) = 0.8, P(Event | Feature 2) = 0.5, P(Event | Feature 3) = 0.25. What is P(Event | Features 1, 2, 3)? Assume that all three features are fully independent and uncorrelated. * 1 point

- [ ] 0.05
- [x] 0.1
- [ ] 0.25
- [ ] 0.4
- [ ] 0.8

2. P(Event | Hypothesis 1) = 0.5, P(Event | Hypothesis 2) = 0.4, P(Event | Hypothesis 3) = 0.7. What is probability of said event, given that exactly one of the three hypothesis are true. (Rounded to 2 digits). All three hypothesis are fully independent and uncorrelated. * 1 point

- ○ 0.14
- ◉ 0.36
- ○ 0.49
- ○ 0.08
- ○ Data is insufficient

3. If two of five features provided as input for a classification task have are correlation -1.0, which of the following is the most effective way to handle this input when using a Naive Bayes classifier. Other 3 features have correlation 0.0 with each other and with these two. * 1 point

- ○ Use both features and add a regularization term
- ○ Drop both of the features since they violate the independence assumption
- ◉ Drop one of the two features and use the other, along with the three the other features
- ○ Use both of the features as is, the classifier will learn the covariance
- ○ Bayes classification is not possible here as independence assumption is violated

4. If we are using a Gaussian Naive Bayes classifier to classify the probability of an event E based on a real valued feature F, then which of the following is assumed to be a gaussian? * 1 point

- ○ P(E | F)
- ◉ P(F | E)
- ○ P(F)
- ○ P(E)
- ○ P(E and F)

5. By using Gaussian Naive Bayes instead of the regular Naive Bayes algorithm (using binning or such), which of the following limitations of the naive bayes algorithm is best overcome? * 1 point

- ○ Requirements of features to be independent of each other
- ◉ Requirement of support of the features to be real numbers
- ○ Inability to generalize to new data which is very close in values to data already encountered
- ○ Requirement of large number of samples in each bin
- ○ Gaussian NB is more computationally efficient and faster than normal Naive Bayes.

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