CSE519 Quiz 26

Total points 6/7

This quiz is set to analyze your basic understanding about the last lecture of the course. Be sure to answer all questions carefully because this will be graded.

The respondent's email address (**aditya.choudhary@stonybrook.edu**) was recorded on submission of this form.

Section score 6/7

✓ Which of the following options describe the effect of +1 Discounting? * 1/1

- (●) It will assign at least some probability to unseen events instead of zero ✓
- ( ) It will assign highest probability to unseen events
- ( ) It will make the probability of unseen events equal to zero

✗ Which of the following option(s) is/are true about word embeddings? * 0/1

- [x] In a high dimensional space, we would expect similar words to be closer to each other ✓
- [x] The goal of word embeddings is to try to predict missing words by context ✓
- [x] In word embeddings, we would expect the word "defenestrate" appear far from the word "murder" ✗
- [x] In word embeddings, words are represented as vectors in a low dimension space ✗

Correct answer

- [x] In a high dimensional space, we would expect similar words to be closer to each other
- [x] The goal of word embeddings is to try to predict missing words by context

✓ What is the probability that sun will rise tomorrow? * 1/1

- ( ) Lower when Voldemort is on the loose
- ( ) 1
- (•) Close to 1 ✓
- ( ) 0.67

✓ We learnt that computing the log of the marginal probabilities solves the previous problem associated with a large X vector. Do we need to convert these probabilities back to normal by taking an inverse log to properly interpret the results? * 1/1

$$C(X) = \max_{i=1}^{m}(\log(p(C_i)) + \sum_{j=1}^{n} \log(p(x_j|C_i)))$$

- (●) No ✓
- ( ) Yes

✓ What numerical problem can occur with Naive Bayes when X is a large vector? * 1/1

$$C(X) = \max_{i=1}^{m} p(C_i)p(X|C_i) = \max_{i=1}^{m} p(C_i) \prod_{j=1}^{n} p(x_j|C_i)$$

- ( ) The resultant probability is independent of the length of X
- ( ) The resultant probability will tend towards 1
- (●) The resultant probability will be very small ✓
- ( ) The resultant probability will be very large

✓ Select the options that succinctly represent the roles of Support Vector Machines and Logistic Regression? * 1/1

- [x] Support Vector Machines separate classes with lines that are defined purely by a geometric criteria ✓
- [x] Both logistic regression and support vector machines seek optimal separating lines between classes. ✓
- [ ] Logistic Regression tries to separate classes with lines that are defined purely by a geometric criteria
- [ ] Support Vector Machines explicitly seek to minimize the probability of a false classification.

✓ Which of the following is/are true regarding Neural Networks? * 1/1

- [x] The training time depends on the size of the network ✓
- [x] Neural networks learn by example ✓
- [x] Neural networks are complex linear functions with many parameters ✓
- [x] Neural networks mimic the way the human brain works ✓