CSCE623 FINAL EXAM

QUESTION STYLE EXAMPLES

SHORT ANSWER QUESTION STYLE EXAMPLES:

For each of the following problem spaces, indicate which model type is preferred: <MODEL TYPE 1> or   
<MODEL TYPE 2>. **Provide justification for each answer under each of the four following conditions…**

Consider the < CLASSIFIER WHICH CONTAINS A TUNABLE PARAMETER> classifier. If a dataset is < DATASET CHARACTERISTIC DESCRIPTION>, explain whether you would expect better performance when <PARAMETER> is <PARAMETER VALUE DESCIPTION>, or <PARAMETER> is <PARAMETER VALUE DESCIPTION> **and justify your answer**.

**Explain** the difference between <PERFORMANCE EVALUATION TYPE 1> , <PERFORMANCE EVALUATION TYPE 2 > and <PERFORMANCE EVALUATION TYPE 3> (don’t just regurgitate the difference in the formula… interpret the formulas and describe what is being expressed) **AND** describe under which of the following circumstances (or combinations of circumstances) we would have reason to use each: {<CONDITION 1>,<CONDITION 2>,<CONDITION 3>}. **Provide your rationale/justification for your answers**

Suppose you wish to <ACCOMPLISH TASK X>. How might you go about using the tools & techniques discussed in the book to do so?

You are reviewing an academic paper for a colleague. The paper describes the data, the methodology your colleague used for fitting a classifier as well as analysis of the results. <EXCERPTS FROM THE PAPER HERE> The paper concludes with discussion and future work. Being a critical thinker armed with lots of knowledge about machine learning, a bunch of questions immediately pop into your head.

1. What question(s) should you ask your colleague about the <THIS PART OF THE PAPER>?
2. What question(s) should you ask your colleague about the <DIFFERENT PART OF THE PAPER>?
3. What question(s) should you ask your colleague about the <YET ANOTHER DIFFERENT PART OF THE PAPER>?

If you experienced the <PROBLEM DESCRIPTION> problem during your <MACHINE LEARNING SUB-TASK>, what would you do to address it?

MULTIPLE CHOICE QUESTION STYLE EXAMPLE:

Suppose we fit a <MODEL NAME> model to a data set. The model uses <DESCRIBE THE MODEL>. After fitting a model, the <MODEL PARAMETERS WERE AS FOLLOWS….>: <FITTED PARAMETER VALUES LISTED HERE>  
Choose (CIRCLE) which of the following is the best conclusion, **and explain why**:

1. < INTEPRETATION A>
2. < INTEPRETATION B>
3. < INTEPRETATION C>
4. < INTEPRETATION D>

Other types of questions could include questions which require you to support your answers with math or logic (proof-like) or true/false or multiple choice *with a requirement to describe your justification*.