

ITEC3040A, Summer2021

Practice Assignment One

Due: 11th June, Before Class

1. Use the same in-class PlayTennis training example (which includes 14 days). **(15 marks)**

- (a) Construct a Naive-Bayes classifier to determine

$\langle Outlook_{Rain}, Temperature_{Hot}, Humidity_{High}, Wind_{Weak}, PlayTennis = ? \rangle$

2. Use the PlayTennis training example again. **(15 marks)**

- (a) **(10 marks)** Construct a Decision Tree. Note that the order of attributes selection is based on the entropy theory for information gain.

- (b) **(5 marks)** Use the classifier to determine

$\langle Outlook_{Rain}, Temperature_{Hot}, Humidity_{High}, Wind_{Weak}, PlayTennis = ? \rangle$

3. Use MatLAB to implement a Naive-Bayes classifier and repeat Question 1. (Details specified in a separate file). **(20 marks)**

What to submit

A PDF file, containing pages exactly in the following order,

- (Page One) A cover page with print-out of
 - Your Name/ID, and
 - The statement: *I have read and understood the Academic Honesty Statement specified in the course outline, and I have adhered fully at all time to the academic honesty rules and policies laid by the instructor, the School of Information Technology and York University Senate's Academic Integrity Policy.*
- Answer to Question 1.
- Answer to Question 2.
- For Question 3:
 - MatLAB Source code (print out).
 - Specific output for the instance given in Question 1.