CSC3022H: Machine Learning

Lab 2: Concept Learning

Department of Computer Science
University of Cape Town, South Africa

August 1, 2018

Due: Friday, August 10, 2018, 10.00 AM

Problem Description

Implement (in C++ only) the FIND-S algorithm (chapter 2 [Mitchell, 1997]). Use the training examples in table 1 to verify that it successfully produces the trace described in section 2.4 [Mitchell, 1997] for the *Enjoysport* example.

Q1: Now use this program to determine the number of random training examples required to exactly learn the target concept:

$$< Sunny, Warm, ?, ?, ?, ? >$$

In a ZIP file, place the source code, executable, and a text file containing your list of random training examples and the answer to Q1. Upload ZIP file to *Vula* before 10 AM, 10 August.

Table 1: Positive and negative training examples for target concept EnjoySport

Example	Sky	AirTemp	Humidity	Wind	Water	Forecast	EnjoySport
1	Sunny	Warm	Normal	Strong	Warm	Same	Yes
2	Sunny	Warm	High	Strong	Warm	Same	Yes
3	Rainy	Cold	High	Strong	Warm	Change	No
4	Sunny	Warm	High	Strong	Cool	Change	Yes

References

[Mitchell, 1997] Mitchell, T. (1997). *Machine Learning*. McGraw Hill, New York, USA.