UC Berkeley Extension

Machine Learning With TensorFlow

X433.7-001 (2 semester units in COMPSCI)

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Midterm

- Compute the SMA of a dynamic input using TensorFlow graph:
  - Use user input to define the length of your vector and the window width
  - Use a placeholder to feed your input to
  - Use scopes for your:
    - Input vector: carries the user input for vector length and window width
    - Variables: incrementing and recording each step when you run the graph
    - SMA section: find the SMA in this section
    - SMA summary: collect your summary each time you run the graph
  - Run the graph as many times as necessary according to the input data:
    - Update and collect your summaries
    - Save your graph with summaries to display using Tensorboard later (see example)
  - Print your result on the screen for verification (see example)
  - Put your name and email on top of your work, name your file and email it to: ailiev@berkeley.edu

Midterm expected output

```
## User input:
Enter the lenght of your random vector: 8
Enter the lenght of the window width  : 2
The step of SMA will be 1

Out vector is [ 1.5  1.1  0.7  2.7  6.5  0.9  1.9 -4.2] and the window width is 2.

## This is the SMA for the given parameters:
[[ 1.3 ]
 [ 0.9 ]
 [ 1.7 ]
 [ 4.6 ]
 [ 3.7 ]
 [ 1.4 ]
 [-1.15]]

## The total mean of the vector is:  1.39
```