CSCI 532 – CUDA Assignment 3

Write a vector normalization routine for n-dimensional vectors. You should create a host function with the following signature:

```c
int L2_normalize(float * V, int n)
```

The function should be a wrapper around calls to CUDA kernel(s).

- The function finds the $L_2$ norm of the array of floating point values. The phrase “$L_2$ norm” is simply a fancy way of saying “Find the sum of the squares of all values and take the square root.”

  After finding the $L_2$ norm of the vector, normalize the vector by dividing every entry by the norm value.

  The return value of the function is for error codes and returns 0 on success.

- Write a driver program that uses command line arguments for the size of the vector, generates random values for the vector and normalizes it using `L2_normalize()`. Optionally, the results should be checked against a CPU version of the same multiplication.

- To turn in your assignment, send a copy of your source code, your Makefile, and your PBS script to hpc_2015_3@graphics.cs.niu.edu.