**Blue Waters Petascale Semester Curriculum v1.0**

**Unit 7: CUDA**

**Lesson 10: Numba for CUDA GPUs**

**Exercise Instructions for Students**

*Developed by Sanish Rai for the Shodor Education Foundation, Inc.*



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*We want to hear from you! Please let us know your experiences using this material by sending email to* [*petascale@shodor.org*](mailto:petascale@shodor.org)

Important:

* Before running the program make sure that CUDA, python and Numba are properly installed and set up in path
* .ipynb files are the jupyter notebook files and need to be opened with Jupyter Notebook. It should be installed with Anaconda or you can install it manually (https://jupyter.org/install)
* .py files are the python files extracted from Jupyter Notebook and can be run as basic python programs

Numba:

1. Review the code Numa\_example.ipynb in Jupyter notebook
2. Write a program for adding the vectors in CPU using loops and compare the results with using Numba for GPU CUDA
3. Similar to the given example, write a python code with Numba to add two 1D lists

Since it is a 1D array, you need to use single dimension instead of 2 Dimension