UE304C: **Master's Project Work for DSAI**

How to install Cuda and DE under googlecolab

Step 1: Go to https://colab.research.google.com in Browser and Click on New Notebook.

Step 2: Click on Runtime > Change runtime type > Hardware Accelerator > GPU > Save

Step 3: Completely uninstall any previous CUDA versions using the following block of codes:

!apt-get --purge remove cuda nvidia* libnvidia-*

!dpkg -l | grep cuda- | awk '{print $2}' | xargs -n1 dpkg --purge

!apt-get remove cuda-*

!apt autoremove

!apt-get update

Step 4: Install CUDA Version 9 running the following codes as a new block:
!wget https://developer.nvidia.com/compute/cuda/9.2/Prod/local_installers/cuda-repo-ubuntu1604-9-2-local_9.2.88-1_amd64 -O cuda-repo-ubuntu1604-9-2-local_9.2.88-1_amd64.deb

!dpkg -i cuda-repo-ubuntu1604-9-2-local_9.2.88-1_amd64.deb

!apt-key add /var/cuda-repo-9-2-local/7fa2af80.pub

!apt-get update

!apt-get install cuda-9.2

Step 5: Now you can check your CUDA installation by running the following code as a new block:
!nvcc --version

The output of running this line should be like this:
vcc: NVIDIA (R) Cuda compiler driver

Copyright (c) 2005-2018 NVIDIA Corporation

Built on Wed_Apr_11_23:16:29_CDT_2018

Cuda compilation tools, release 9.2, V9.2.88

Step 6: Click on the left-hand side of your notebook, where there is an icon called "files". So, a place is opened for dragging the files.
Unzip the code you want to run (codes in www.mage.fst.uha.fr/idoumghar/master2/cudade.tar) and drag all its files into the opened space of "file".

Step 7: Make a runnable file of the uploaded files running the following code as a new block:

!make

The name of the runnable file will be shown in the results, for example:

!nvcc -o programDE main.cpp DifferentialEvolution.cpp DifferentialEvolutionGPU.cu

It shows that the name of the runnable file is programDE

Step 8: Run the runnable file by running the following line as a new block:

!./programDE