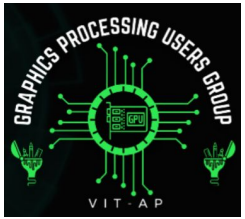
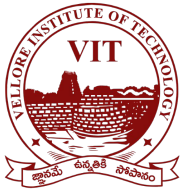




VIT-AP UNIVERSITY

SPONSORED BY

DEEP LEARNING INSTITUTE

C{}DE-A-TH{}N - 2022

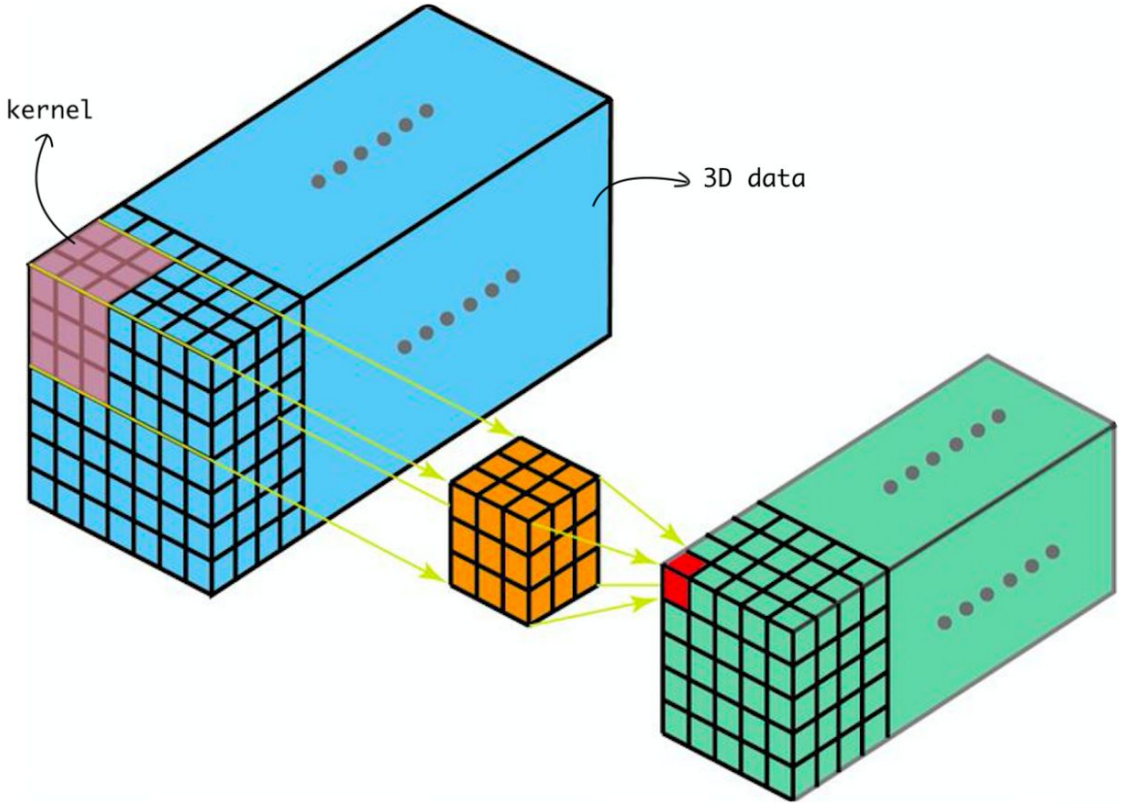
Assignment 3

Q. 1 A. Write a C/C++ or Python program to perform 3D convolution

B. Deploy the above code on GPU using CUDA C++/ CUDA Python

- Consider the matrix size sufficiently large eg. 512 x 512 x 512 of type double.
- Consider mask size as 9 x 9 x 9
- Measure the performance of of sequential version and optimized parallel version
- Calculate the speedup observed
- You may execute sequential programs on your local machine
- However all parallel codes must be executed on server
- Parallel versions considered for evaluations only if both sequential and parallel codes gives same output

What is 3D Convolution?



Submission

- Explain in brief your parallelization strategy like data splitting, thread/block creation, and allocation etc.

Ans:

Submission

- Insert your findings into the below table

Ans:

	Sequential Time	Parallel version 1 time	Parallel version 2 time	Speedup wrt parallel version 1	Speedup wrt parallel version 1
Matrix matrix addition					

Note:- In case if needed you can add more columns if you have implemented multiple parallel versions

Submission

- Comment on your observations such as limitations of proposed solution, etc.

Ans:

Submission

- Rename the file as <TEAM_NAME>_Assignment3
- Send the presentation file with source code to coordinator's mail