

- The files in the package are for all problem 1-5 in homework2.
- The source codes was composed under WIN10+VS2015+cuda10.2 environment which covers both CUDA and openCL, they can run under both Win10 or Linux
- Any questions call my phone: +1 704 858 7806

Package including:

- Homework report
- Image folder (named images)
- Readme.pdf
- Programs associated with problems are listed in below table

Prob. Item	Description	CUDA	OpenCL
1	Direct convolution + global memory	naiveconv_globalMM_cuda.cu	naiveconv_cl.c + naiveconv_globalMM_kernel.cl
	GMM convolution + global memory	gemmconv_globalMM_cuda.cu	gemmconv_cl.c + gemmconv_globalMM_kernel.cl
2	Direct convolution + local/shared memory	naiveconv_sharedMM_cuda.cu	naiveconv_cl.c + naiveconv_localMM_kernel.cl
	GMM convolution + local/shared memory	gemmconv_sharedMM_cuda.cu	gemmconv_cl.c + gemmconv_localMM_kernel.cl
3	GMM convolution with 96 filters + global memory	gemmconv_globalMM_96ch_cuda.cu	gemmconv_cl_96ch.c + gemmconv_globalMM_96ch_kernel.cl
4	GMM convolution with 96 filters + local/shared memory	gemmconv_sharedMM_96ch_cuda.cu	gemmconv_cl_96ch.c + gemmconv_localMM_96ch_kernel.cl
5	convolution batching	batchconv_cuda.cu	batchconv_cl.c + batchconv_kernel.cl

For configuration:

- If change parameter, find the define area in the code for each cuda (.cu) or OpenCL (.c) fiels, and change the value accordingly, such as set 7 for filter size as below figure.

```
34
35     #define HEIGHT 160
36     #define WIDTH 120
37     #define FLTSIZE 7 //filter size
38     #define PADDING 0
39     #define STRIDE 1
40     #define CHANNEL 96
41
--
```

- Images are put in the fold of named “images”, this fold to be put in the same directory as the executable files.