

# CENG5030 Lab 03

## Mobile Neural Network: MNN

### 1 Sample Code:

- Build the MNN from the source code:
  - Go to the `./Lab04-code/MNN/schema`
  - Run `sh generate.sh` in your terminal
  - Go to the `./Lab04-code/MNN`
  - Run `mkdir build && cd build` in your terminal
  - Run `cmake DMNN_BUILD_DEMO=ON MNN_BUILD_CONVERTER=ON ..`
  - Run `make -j8`
- Run the human pose estimation example:
  - Go to the `./Lab04-code/Data/model`
  - Copy `modelmobilenet_v1_075.pb`, `inputPose.jpeg`, `convertTool.sh`, `runPose.sh` to `./Lab04-code/MNN/build`
  - Go to the `./Lab04-code/MNN/build` and run `sh runPose.sh` to get the result
  - Open the `outputPose.png` to see the visualization of human pose estimation

### 2 Assignments:

#### Q1 Convert the model in

`./Lab04-code/MNN/Data/model/deeplabv3_257_mv_gpu.tflite` using the MNNConvert tool to MNN model format. The MNNConvert tool is in the `./Lab04-code/MNN/build` named as `MNNConvert`

#### Q2 Learn the `segment.cpp` from the `/Lab04-code/MNN/demo/exec/` to get the result of semantic segmentation

- Copy image from `/Lab04-code/Data/inputSeg.jpeg` to `./Lab04-code/MNN/build`
- Use the `segment.out` in `./Lab04-code/MNN/build` and the MNN model from `textbfQuestion 1`
- Get the visualization of semantic segmentation

## Useful Materials:

- [MNN Github](#)
- [MNN Documentation](#)
- [Human Pose Estimation](#)
- [Semantic Segmentation](#)
- [DeepLab](#)

**Tips:** You should learn the code style from the sample code to build your project.