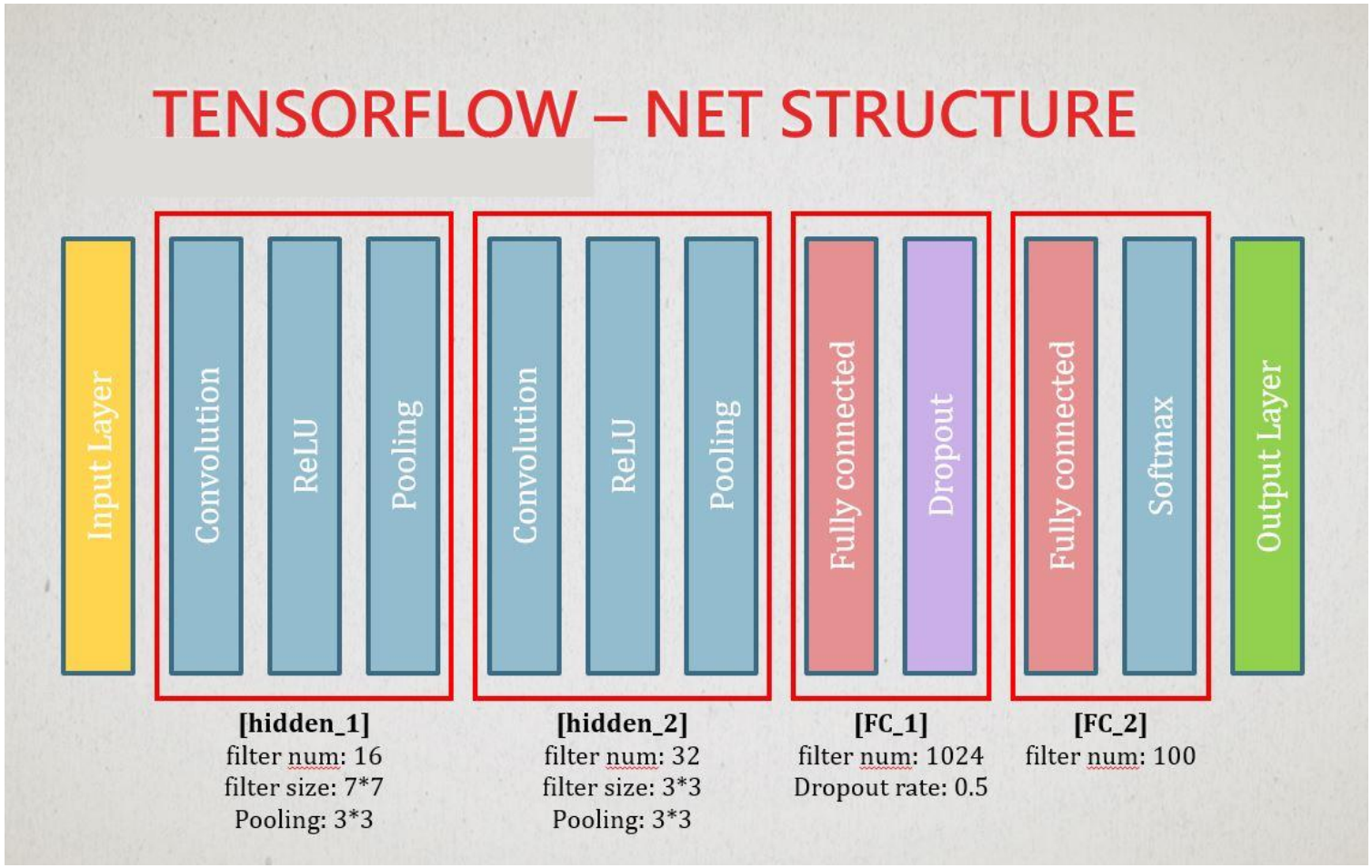
Machine Learning

Assignment #3

Face Recognition by TensorFlow

TensorFlow Sample Code



- Dataset: AR Face Dataset
- Structure
  - One input layer
  - Two hidden layers
    - Convolution
    - ReLU
    - Pooling
  - Two fully connected layers
    - With Softmax layer
  - One output layer
- E-Course\授課教材\作業題目\tensorflow_example.7z

Requirement

1. Apply account of deep learning servers.
2. Modify the sample code to give new structure
   - One input layer and one output layer
   - Hidden_1 and Hidden_2
     - Convolution layer + ReLU
   - Hidden_3 and Hidden_4
     - Convolution layer + Max Pooling
   - FC_1
     - Size: 512, with Dropout rate 0.3
   - FC_2
     - Size: 512, with Softmax
- Train YaleB dataset by the same settings of previous assignments.

Submit the following items…

- **Deadline : 5/17 (三) 11:59 p.m**
- Submit your input data, model and source code.
- Readme file – How to run your code.
- Report file
  1. Can your model converge? If not, what techniques you have applied to avoid overfitting?
  2. Experimental results
     - Report the plot of training errors and the testing accuracy.
     - Compare your results to that of previous assignments (Nearest-Neighbor …)
  3. Problem or difficulty you encountered.
  4. Discussion.