# INTELLIGENT SYSTEM DEVELOPMENT
## PART 2: DEEP LEARNING
### BÀI TẬP (2 weeks)

1. Present your understanding of tensorflow  from books and the link
   a. https://notebook.community/nehal96/Deep-Learning-ND-Exercises/Intro%20to%20TensorFlow/intro-to-tensorflow-notes
   b. https://stanford.edu/~rezab/classes/cme323/S18/notes/TensorFlow%20Tutorial,%20CME%20323,%204_12_2018.pdf
2. Student presents your knowledge of deep learning from the link. Run the programming and explain terms
   https://www.activestate.com/resources/quick-reads/what-is-a-keras-model/
3. Tensorflow and image classification
   a. https://www.tensorflow.org/tutorials/images/classification
   b. https://www.tensorflow.org/api_docs/python/tf/image
   c. https://www.tensorflow.org/tensorboard/image_summaries
   d. https://www.w3schools.com/ai/ai_tensorflow_operations.asp
   e. https://www.w3schools.com/ai/ai_tensorflow_operations.asp
   f. https://www.geeksforgeeks.org/how-to-create-a-vector-in-python-using-numpy/
4. Explain concepts: batch, epoch, iteration:
   a. https://www.javatpoint.com/epoch-in-machine-learning
   b. https://machinelearningmastery.com/difference-between-a-batch-and-an-epoch/
   c. https://galaxyinferno.com/epochs-iterations-and-batch-size-deep-learning-basics-explained/
5. Understand deep learning
   https://keras.io/guides/training_with_built_in_methods/
6. Activation function
   a. https://towardsdatascience.com/activation-functions-neural-networks-1cbd9f8d91d6
   b. https://towardsdatascience.com/multi-layer-neural-networks-with-sigmoid-function-deep-learning-for-rookies-2-bf464f09eb7f
7. Dropout: CNN. What and why?
   a. https://medium.com/@draj0718/convolutional-neural-networks-cnn-architectures-explained-716fb197b243
   b. https://machinelearningmastery.com/dropout-regularization-deep-learning-models-keras/
8. RNN: https://stanford.edu/~shervine/teaching/cs-230/cheatsheet-recurrent-neural-networks
9. Write your understanding https://machinelearningmastery.com/display-deep-learning-model-training-history-in-keras/
10. Loss, optimization and metrics
   https://machinelearningmastery.com/loss-and-loss-functions-for-training-deep-learning-neural-networks/

## PROJECT (3 weeks)

Each student selects a topic on application of deep learning:  implementing and deployment