Deep Learning - Nvidia

Content

Time : 9.00 am to 9.45 am : Deep Learning Demystified and Applied Deep Learning (lecture)

Time : 10 am to 12.00 am: Image Classification with DIGITS (lab)

Frameworks: Caffe

This lab shows you how to leverage deep neural networks (DNN) - specifically convolutional neural networks (CNN) - within the deep learning workflow to solve a real-world image classification problem using NVIDIA DIGITS on top of the Caffe framework and the MNIST hand-written digits dataset. In this lab, you will learn how to:

- Architect a Deep Neural Network to run on a GPU
- Manage the process of data preparation, model definition, model training and troubleshooting
- Use validation data to test and try different strategies for improving model performance
- On completion of this lab, you will be able to use NVIDIA DIGITS to architect, train, evaluate and enhance the accuracy of CNNs on your own image classification application.

12:00   Lunch

1:00   Object Detection with DIGITS (lab)

This lab explores three approaches to identify a specific feature within an image. Each approach is measured in relation to three metrics: model training time, model accuracy and speed of detection during deployment. On completion of this lab, you will understand the merits of each approach and learn how to detect objects using neural networks trained on NVIDIA DIGITS on real-world datasets.

3:00   Break

3:15   Neural Network Deployment with DIGITS and TensorRT (lab)

Frameworks: Caffe

In this lab, you will learn how to:
- Understand the role of batch size in inference performance
- Make various optimizations in the inference process.
- Explore inference for a variety of different DNN architectures trained in other DLI labs.
- On completion of this lab, you will be able to execute a full Deep Learning workflow: from loading data, to training a neural network, to deploying that trained network to production.

5:15   Closing Comments & Questions

5:30   End

Number of Team Members: 1