Theano-MPI Documentation

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Theano-MPI is a python framework for distributed training of deep learning models built in Theano. It implements data-parallelism in serveral ways, e.g., Bulk Synchronous Parallel, Elastic Averaging SGD and Gossip SGD. This project is an extension to theano_alexnet, aiming to scale up the training framework to more than 8 GPUs and across nodes. Please take a look at this technical report for an overview of implementation details.

Theano-MPI is compatible for training models built in different framework libraries, e.g., Lasagne, Keras, Blocks, as long as its model parameters can be exposed as theano shared variables. Theano-MPI also comes with a light-weight layer library for you to build customized models. Check out the examples of building Lasagne VGGNet, Wasserstein GAN and Keras Wide-ResNet.

User Guide

The following pages explains how to install Theano-MPI. how to build and train a customized neural network model in Theano-MPI.

CHAPTER 2

Evaluation

This section provides some evaluation results of Theano-MPI.