

Special Program in Applied Mathematics and Applied Mechanics

Deep Learning on GPU

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15:00 - 18:00

308, Mathematics Research Center Building (ori. New Math. Bldg.)

Deep learning is one of the most powerful machine learning techniques nowadays. Google, Facebook, Baidu and many web giants now use deep learning, in one form or another, for voice recognition, image classification, recommendation, web advertisements, and many other online services. In this talk, the basic idea of deep learning methods will be introduced. Specifically, we will focus on the convolutional neural network (CNN) architecture in image pattern recognitions. A typical CNN consists of several convolutional layers, and each layers followed by a nonlinear activation function to create activation maps, and another nonlinear pooling layer that reduces the data size and provides invariance for different input images. Last, we will mention the computational challenges of the training process for CNN, and how the video card on the desktops, which is also called Graphics Processing Unit (GPU), could help.

