CRUNCH Seminars at Brown, Division of Applied Mathematics

Friday – December 19, 2019

1. **Introducing AdaNet: Fast and Flexible AutoML with Learning Guarantees (Tutorial)**
Guofei Pang

2. **AdaNet: Adaptive Structural Learning of Artificial Neural Network**
Liu Yang

We present new algorithms for adaptively learning artificial neural networks. Our algorithms (AdaNet) adaptively learn both the structure of the network and its weights. They are based on a solid theoretical analysis, including data-dependent generalization guarantees that we prove and discuss in detail. We report the results of large-scale experiments with one of our algorithms on several binary classification tasks extracted from the CIFAR-10 dataset. The results demonstrate that our algorithm can automatically learn network structures with very competitive performance accuracies when compared with those achieved for neural networks found by standard approaches.