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9 May 2018

Comparison of Convolutional Neural Networks for Remote Sensing

1 Technical Description

Remote Sensing is a lucrative application for computational intelligence, with much of the recent research being in Neural Networks. Within this discussion of neural networks for remote sensing, Deep Convolutional Neural Networks (DCNN) are the most popular. One of the issues with DCNN is the high training time, even with GPU acceleration. In this project, I attempt to compare a shallow convolutional network with one of the first deep convolutional networks. I then take my comparison one step farther, by looking at the relative cost and benefit of residual neural networks.

1.1 Shallow Convolutional Neural Network

1.2 Deep Convolutional Neural Network

1.3 Deep Residual Convolutional Neural Network

2 Algorithm Design

3 Experiment Results

4 Analysis

5 Code