COMP 8740 Neural Networks

Final Project Proposal

Tuning hyper-parameters on Image Classification tasks using Deep CNN

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28-Oct-2021

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Recently, deep convolutional neural network (DCNN) has shown significant improvement over classification tasks, especially image classification. The most promising DCNN architecture is ResNet, which can generalize the classification tasks better than other state-of-the-art DCNN architectures. However, for CIFAR100 dataset, the vanilla ResNet accuracy is still not in acceptable threshold and the accuracy could be improve by finding (tuning) optimal hyper-parameters. In this project, our goal is to improve the classification accuracy of CIFAR100 and Tiny-ImageNet datasets with hyper-parameter optimization of the existing model or extending some modules. To achieve that, we will explore the recent existing techniques as our literature review process following by class resources. In this project, we will use python libraries such as Tensorflow, Keras to build and test the model on our datasets.