CNN

Nov 24, 2020

Department of Computing
The Hong Kong Polytechnic University

Announcement

- Deadline of Assignment 5: 23:59 Dec. 8th

Outline

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- CNN Algorithm Using Pytorch
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- Assignemnt 5
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Lab assignment 5: CNN

Create Your First Convolutional Neural Network in PyTorch

- Read in CIFAR-10 Dataset
- Build a CNN with the following architecture:
  - 5×5 Convolutional Layer with 16 filters, stride 1 and padding 2.
  - ReLU Activation Layer
  - Batch Normalization Layer
  - 2×2 Max Pooling Layer with a stride of 2
  - 3×3 Convolutional Layer with 32 filters, stride 1 and padding 1.
  - ReLU Activation Layer
  - Batch Normalization Layer
  - 2×2 Max Pooling Layer with a stride of 2
  - Fully-conneted layer with 512 output unit
  - ReLU Activation Layer
  - Fully-connected layer with 10 output units
- Set up Adam optimizer, with 1e-3 learning rate and betas=(0.9, 0.999)
- Report the overall accuracy and accuracy of each class
- Optional: Manipulate parameters to improve the accuracy (epochs, learning rate, number of filters, number of layers ,etc.)