Assignment 8.1 (24-09-2023)

Problem Statement

VGG16, Xception and InceptionV3 in tensorflow for Optical coherence tomography (OCT) images.

Data:

https://www.kaggle.com/datasets/paultimothymooney/kermany2018

Create and Publish a Kaggle notebook in this dataset. Perform all the tasks in this notebook.

Task:

1. Read only training images and split the images into training and validation set by 80:20 ratio.
2. Use ImageDataGenerator to read the images for the model.
3. Build VGG16, Xception and InceptionV3 model setting trainable parameters as False.
4. Add two additional dense layers after every model, with 64 and 32 units respectively.
5. Which model performs well? Comment.

Assignment 8.2 (29-09-2023)

Problem Statement

ResNet 50, 101, 152, DenseNet 121, 161 in fastai for Optical coherence tomography (OCT) images.

Data:

https://www.kaggle.com/datasets/paultimothymooney/kermany2018

Create and Publish a Kaggle notebook in this dataset. Perform all the tasks in this notebook.

Task:

1. Build ResNet 50, 101, 152, DenseNet 121, 161 for car and truck prediction using fastai.

References:

- VGG16: https://arxiv.org/abs/1409.1556
- Xception: https://arxiv.org/abs/1610.02357
- InceptionV3: https://arxiv.org/abs/1512.00567
- Resnet: https://arxiv.org/abs/1512.03385
- Densenet: https://arxiv.org/abs/1608.06993

https://keras.io/api/applications/densenet/
https://keras.io/api/applications/inceptionv3/
https://keras.io/api/applications/resnet/
https://keras.io/api/applications/vgg/
https://keras.io/api/applications/xception/