

Pretrained Neural Networks

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Pretrained Neural Networks

- Training of neural networks takes a long time
 - Hours
 - Days
- Pretrained neural networks
 - A network was trained during long time using large computational resources
 - The network was saved and made publicly available
 - The network can be loaded and used for prediction without training

Pretrained Neural Networks

- Pretrained networks in Keras
 - <https://keras.io/applications/>
- Pretrained networks in TensorFlow
 - <https://github.com/tensorflow/models>

ImageNet Dataset

- OpenDataset
- <http://image-net.org/>
- 14 millions of images with class labels

IMGENET



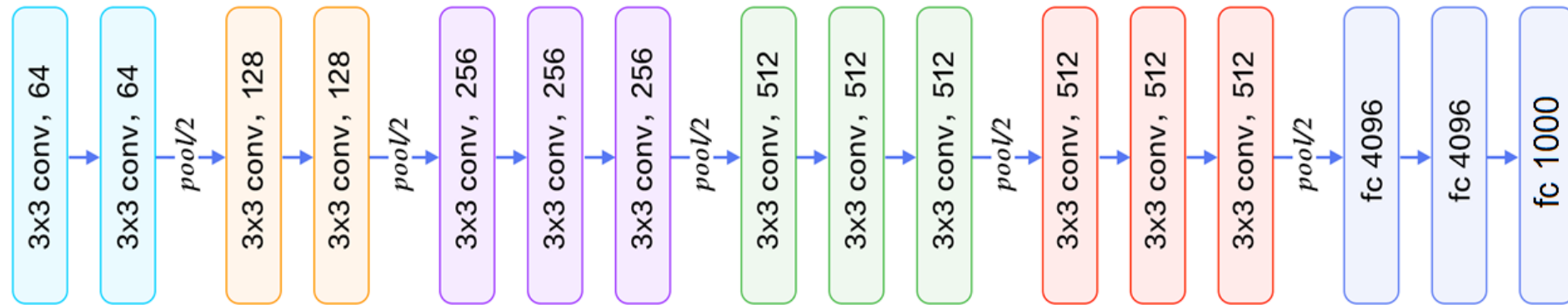
- Large Scale Visual Recognition Challenge
 - Classification for ImageNet , 1000 classes
 - Pretrained neural network were trained using data from the challenge

ImageNet Dataset

domestic animal, domesticated animal
domestic cat, house cat, Feline
Egyptian cat (0)
Persian cat (0)
kitty, kitty-cat, puss, pussycat
tiger cat (0)
Angora, Angora cat (0)
tom, tomcat (1)
Siamese cat, Siamese (1)
Manx, Manx cat (0)
Maltese, Maltese cat (0)
tabby, queen (0)
Burmese cat (0)
alley cat (0)
Abyssinian, Abyssinian cat
tabby, tabby cat (0)
tortoiseshell, tortoiseshell cat
mouser (0)

domestic animal, domesticated animal
domestic cat, house cat, Feline
dog, domestic dog, Canis familiaris
pooch, doggie, doggy, bulldog
hunting dog (101)
dalmatian, coach dog, carriage dog
cur, mongrel, mutt (2)
corgi, Welsh corgi (2)
Mexican hairless (0)
lapdog (0)
Newfoundland, Newfoundland dog
poodle, poodle dog (4)
basenji (0)
Leonberg (0)
griffon, Brussels griffon, English bulldog
pug, pug-dog (0)
working dog (45)
spitz (4)
Great Pyrenees (0)
toy dog, toy (11)
puppy (0)

VGG16 Architecture



Thank you!