You get 10 bonus points if you complete this programming exercise.

Use CNNs (programs provided in week 7 folder) that use pre-trained VGG16 ANN to recognize cats and dogs as the prototype to design/train/validate a new network. This network must use ImageNet-pretrained InceptionV3 (Google image recognition ANN https://arxiv.org/abs/1512.00567) to create your own ANN that recognizes cats, dogs and elephants.

The interface with InceptionV3 is not much different, to what was described in class. Still, for precise description of it see here and for example of using it see here.

You can experiment with alternative uses of pre-trained InceptionV3 (feature extraction + FF dense NN training, training together and feature tuning) to design version that generalizes best. Use 600 images to train, 200 to validate and 400 to test in each category of images.

"Dogs and cats" data sets can be downloaded from Week 8 folder. "Elephants" data-set attached here. It is smaller than "dogs and cats" data sets, but still contains 1400 images so it is sufficient for creating necessary data.