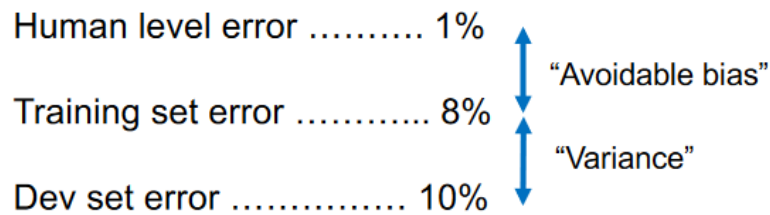


1 Training Strategies and Procedures

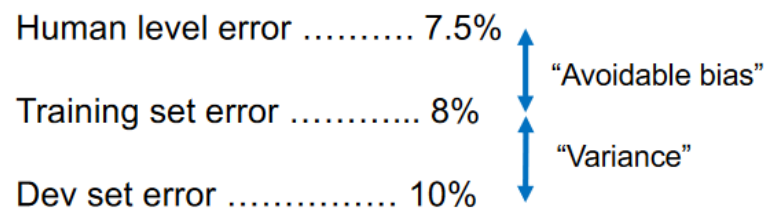
1.1 BIAS/VARIANCE

Given the following scenarios, which error should we focus on improving and what can we do to achieve this?

a)



b)



1.2 HUMAN-LEVEL ERROR

Which of following errors would you consider is the human-level error?

Typical human 3% error
Typical doctor 1% error
Experienced doctor 0.7% error
Team of experienced doctors 0.5% error

2 Solving CIFAR-10

The CIFAR-10 dataset consists of 60000 32x32 color images in 10 classes, with 6000 images per class. There are 50000 training images and 10000 test images.

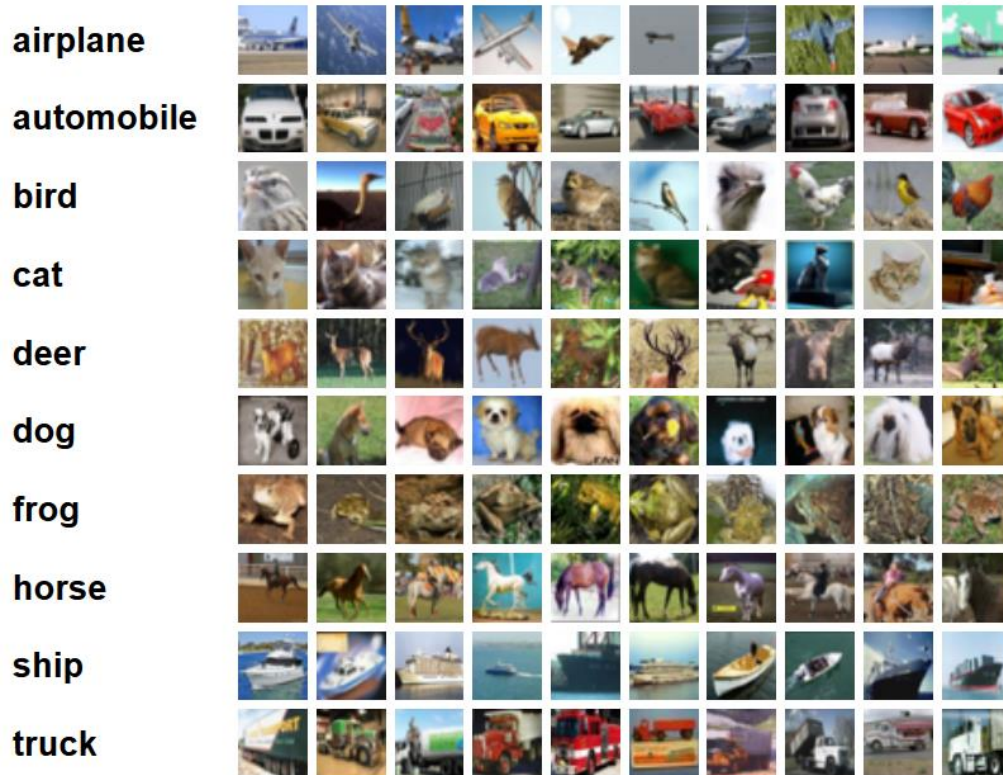


Figure 1 10 random images from each of the 10 classes in the dataset

2.1 SETUP AND LOAD DATA

Set up the python environment.

Import the required libraries. In this practice we'll download the data using the datasets library from Keras.

2.2 VISUALIZING THE LOSS AND ACCURACY

Use the Callback Tensorboard included in Keras to visualize the accuracy and loss for the training and validation sets. This will help you monitor the training process.

2.3 CREATING THE NETWORK

Create a multilayer neural network to classify the images. Use the Keras Documentation to build and train the model. <https://keras.io/>

2.4 ADJUSTING THE NETWORK

Adjust the hyperparameters to make the network converge.
Use the strategies learned today to improve the model's performance.

2.5 SAVING THE NET

Save the model with the best results using the help functions from Keras.