The code in prototype.py has only been slightly modified. It's use was to learn to classify images as being of either a cat or a dog. Sample thermographic image data is placed into four disjoint sets, training and testing for both malignant and benign examples.

Lines 47-59 specify the locations of image data along with some training specifications.

Lines 61-83 set up the convolutional neural network.

Lines 86-106 set up the image data generators. These will be used to read in data for training and validation. Images are re-scaled to the same size. The training data is randomly permuted, in effect increasing the amount of data. The validation data is left unaltered.

In lines 108-113 the model is trained on the testing data. The model is periodically checked on the validation data (data not seen during training) to ensure it is generalizing well and not memorizing the training set.

In line 115 the model weights are written to disk.