# Activity 18 Convolutional Neural Networks

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## Objective(s)

1. Improve your classification with CNN beyond what the author achieved [1–5].

## Results

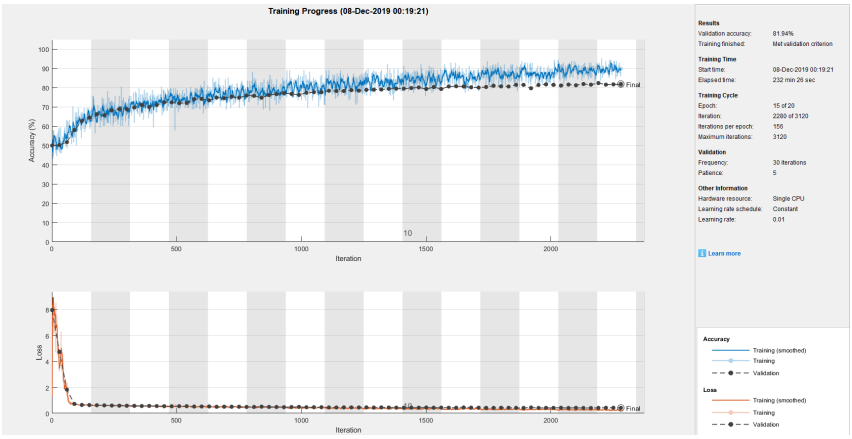


Figure 1: Training Progress


Figure 2: Test on the CNN

**Comment(s)**

**Convolutional Neural Networks.** In the previous CNN cited [6] it showed that the training loss is significantly lower than the validation loss and the training accuracy is higher than the validation accuracy, particularly after the 20th epoch. Figure 1 shows that the validation accuracy of our CNN is at 81.94% such that the training and validation are proportional with respect to each other. The convolutional neural network's accuracy was previously 75% and is now at 81.94% which can be confirmed in Fig. 2 that shows 8/10ths of the data is correctly classified.

# Self-Evaluation

I would rate myself a 10. The objectives for this activity was met such that the validation accuracy has improved from the cited CNN [6] of 75% to 81.94% with our improved CNN. The convolutional neural network was successful for classifying images of cats and dogs.

# Acknowledgement(s)

I would like to thank my friends who I asked for help regarding the activity if what I was doing was correct. In particular, I would like to thank Rhei Juan who helped clear out some confusions I had in the activity. I would also very like to give credit to the websites that are cited below which greatly helped me in this activity [6–9].

## References

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[8] TheMathWorksInc., Create simple deep learning network for classification (2006), last accessed 12 December 2019, https://www.mathworks.com/help/deeplearning/examples/create-simple-deep-learning-network-for-classification.html?fbclid=IwAR2X2DsEAHwmH6kY0WImh6u7Wv9d78VPaMbcTlZg0f8Ecfr4M4TJWOOWrv0.

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