Deep Learning: Feedforward Neural Net

1. Build a DNN with five hidden layers of 100 neurons each, “He” initialization (tf.variance_scaling_initializer), and the “ELU” (not ReLU) activation function.
2. Using Adam optimization and early stopping, try training on MNIST but only on digits 0 to 4. You will need a softmax output layer with five neurons, and as always make sure to save checkpoints at regular intervals and save the final model so you can reuse later.
3. Explain the training process and the accuracy/results.
4. Tune the hyper-parameters using cross validation and see what precision you can achieve.
5. Try adding dropout to every layer and try again. Does it help?