Spend some time playing with this demo.  Draw an input, modify it, and observe how the results at each layer change as you change the drawing.  Create some inputs that look vaguely like digits, but that confuse the network, i.e., where two or more of the labels register.  Write up interesting observations about what you see combined with illustrative screenshots.

Model gets confused very easily. A number written in dotted format (like 4 in this image) is widely misclassified. Similarly, numbers drawn in a very distinguishable manner, but slightly off-center of rotated are mis-classified.

3.6 3. CIFAR-10 contains RGB images with a lot more details in the background whereas Fashion MNIST and MNIST are grayscale images with few details and little background noise. This is why it’s much harder to train on CIFAR dataset.

3.6.4 Adding more convolutional layers increases the accuracy initially. It also increases the training time (decreasing the speed) by a few orders. When the number of convolutional layers gets around 8-10, the performance starts decreasing, while the training time ever-increasing. The assumption is this is due to decreasing gradient flow across the layers.