Understanding the Data (Sprint-1)

[ ] ↳ *21 cells hidden*

Defining Model (sprint-2)

#Import libraries

from keras.models import Sequential

from keras.layers import Dense, Dropout, Flatten from keras.layers import Conv2D, MaxPool2D

#Adding Layers

model = Sequential()

model.add(Conv2D(filters=32, kernel\_size=(4,4),activation='relu',input\_shape=(28,28,1))) model.add(MaxPool2D(pool\_size=(2,2)))

model.add(Flatten()) model.add(Dense(128,activation='relu')) model.add(Dense(10,activation='softmax'))

#Compilation of the model model.compile(loss='categorical\_crossentropy',optimizer='Adadelta',metrics=['accuracy'])

#Early Stopping and Callbacks

from tensorflow.keras.callbacks import EarlyStopping

early\_stop = EarlyStopping(monitor='val-loss', patience=1)

#Test the Model model.fit(x\_train,y\_cat\_train,

epochs=15, validation\_data=(x\_test,y\_cat\_test), callbacks=[early\_stop])

Epoch 1/15

1858/1875 [============================>.] - ETA: 0s - loss: 0.0072 - accuracy: 0.997

1875/1875 [==============================] - 7s 3ms/step - loss: 0.0072 - accuracy: 0

Epoch 2/15

1869/1875 [============================>.] - ETA: 0s - loss: 0.0067 - accuracy: 0.997

1875/1875 [==============================] - 6s 3ms/step - loss: 0.0067 - accuracy: 0

Epoch 3/15

1865/1875 [============================>.] - ETA: 0s - loss: 0.0063 - accuracy: 0.997

1875/1875 [==============================] - 6s 3ms/step - loss: 0.0063 - accuracy: 0

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| Epoch 4/15 | |  | |
| 1866/1875 | [============================>.] | - ETA: 0s - loss: 0.0059 - accuracy: 0.998 | |
| 1875/1875 | [==============================] | - 6s 3ms/step - loss: 0.0059 - accuracy: 0 | |
| Epoch 5/15 | |  | |
| 1866/1875 | [============================>.] | - ETA: 0s - loss: 0.0054 - accuracy: 0.998 | |
| 1875/1875 | [==============================] | - 7s 4ms/step - loss: 0.0056 - accuracy: 0 | |
| Epoch 6/15 | |  | |
| 1868/1875 | [============================>.] | - ETA: 0s - loss: 0.0052 - accuracy: 0.998 | |
| 1875/1875 | [==============================] | - 7s 4ms/step - loss: 0.0052 - accuracy: 0 | |
| Epoch 7/15 | |  | |
| 1861/1875 | [============================>.] | - ETA: 0s - loss: 0.0050 - accuracy: 0.998 | |
| 1875/1875 | [==============================] | - 7s 4ms/step - loss: 0.0050 - accuracy: 0 | |
| Epoch 8/15 | |  | |
| 1868/1875 | [============================>.] | - ETA: 0s - loss: 0.0046 - accuracy: 0.998 | |
| 1875/1875 | [==============================] | - 6s 3ms/step - loss: 0.0047 - accuracy: 0 | |
| Epoch 9/15 | |  | |
| 1861/1875 | [============================>.] | - ETA: 0s - loss: 0.0045 - accuracy: 0.998 | |
| 1875/1875 | [==============================] | - 6s 3ms/step - loss: 0.0045 - accuracy: 0 | |
| Epoch 10/15 | |  |  |
| 1863/1875 [============================>.] | | - | ETA: 0s - loss: 0.0043 - accuracy: 0.998 |
| 1875/1875 [==============================] | | - | 6s 3ms/step - loss: 0.0043 - accuracy: 0 |
| Epoch 11/15 | |  |  |
| 1866/1875 [============================>.] | | - | ETA: 0s - loss: 0.0041 - accuracy: 0.998 |
| 1875/1875 [==============================] | | - | 7s 4ms/step - loss: 0.0041 - accuracy: 0 |
| Epoch 12/15 | |  |  |
| 1865/1875 [============================>.] | | - | ETA: 0s - loss: 0.0039 - accuracy: 0.998 |
| 1875/1875 [==============================] | | - | 7s 4ms/step - loss: 0.0039 - accuracy: 0 |
| Epoch 13/15 | |  |  |
| 1867/1875 [============================>.] | | - | ETA: 0s - loss: 0.0037 - accuracy: 0.998 |
| 1875/1875 [==============================] | | - | 8s 4ms/step - loss: 0.0037 - accuracy: 0 |
| Epoch 14/15 | |  |  |
| 1872/1875 [============================>.] | | - | ETA: 0s - loss: 0.0036 - accuracy: 0.998 |
| 1875/1875 [==============================] | | - | 7s 4ms/step - loss: 0.0036 - accuracy: 0 |
| Epoch 15/15 | |  |  |
| 1859/1875 [============================>.] | | - | ETA: 0s - loss: 0.0034 - accuracy: 0.998 |
| 1875/1875 [==============================] | | - | 7s 4ms/step - loss: 0.0034 - accuracy: 0 |

<keras.callbacks.History at 0x7f403c0cf190>

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