

**Lab Artificial Intelligence**

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**Section-B**

Initial accuracy on Kaggle:

A screenshot of a computer

Description automatically generated with low confidence

Accuracy after adding seeds 🡺78.02%

A seed is a value used to initialize the random number generator. It ensures that the random numbers generated are reproducible. By setting the seed, we can obtain the same sequence of random numbers every time we run the code with the same seed value.

After 2nd run with seed🡺79%

After 3rd run with seed🡺78.6%

**Hence, I’ll consider 78.5% as my initial accuracy.**

I added.

cnn.add(Dense(activation = 'sigmoid', units = 1))

and gave learning rate to “Adam.”

cnn.compile(optimizer = tf.keras.optimizers.Adam(learning\_rate=0.0001), loss = 'binary\_crossentropy', metrics = ['accuracy'])

The new accuracy came🡺88%

It seemed model to overfitting training data, So I added dropout in CNN.

cnn.add(Dropout(0.25))  # Dropout rate of 0.25

After adding dropout, our testing accuracy came🡺 85%, shows a considerably greater increase compared to 78.5%.

