

## Saving models -

### 1) Traditional -

`model.save('my_model.keras', h5')`

### 2) Saving weights

`model.save_weights('my_model_weights.h5')`

`model.load_weights('my_model_weights.h5')`

`model.load_weights('my_model_weights.h5', by_name = True)`

only the 1st layer will use the weights of previous model by name

### 3) Configuration Saves JSON

### 4) Custom Saving

Attention layer = tells specific data to be important so machine doesn't forget

## Functional API

makes flexible model

`keras.utils.plot_model(model, ...)`

↑  
 gi plots ~~model~~ model in flow chart

## Dense layers

weights : frequency  
 (tuning the data)

Biases : Volume  
 (output of data)

initializer  $\equiv$  `keras.initializers.GlorotNormal()`

↑  
 assigns weight

$$\text{line} = ax + c$$

↑  
weights

← bias constant

## Dropouts

self.seed\_generator  
= keras.random.seed\_generator(1337)

↑  
reproducible output

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Task = changes value in  
seed generator and see  
change in output.

Source code will be given.  
Change Change readme on github

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Auto encoder:

assembles (encoder and decoder)

Images will be vectorized  
and when given input will be  
reconstructed

Encoder

no dense layer since no classification  
is done

Decoder

20 = layers . Up Sampling 2D (3) (2)

↑  
opposite of pooling

System with multiple inputs / outputs.

embedding :-

makes graph of different elements  
(multi-dimensional)

LSTM :- Long-Short Term Memory  
Memorizes words from embedding  
(as vectors) ↗