

## EDAN95

## Applied Machine Learning

<http://cs.lth.se/edan95/>

## Lecture 9: Autoencoders and Generative Learning

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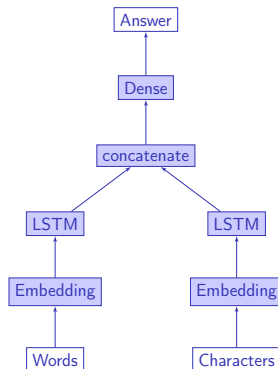
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# The Functional Model

So far, we have use the Sequential model to build networks  
These models correspond to pipelines with one input and one output



To build graphs, we need to use the functional model.

# Comparing the Models

Sequential:

```
seq_model = Sequential()  
seq_model.add(layers.Dense(32, activation='relu',  
    input_shape=(64,)))  
seq_model.add(layers.Dense(32, activation='relu'))  
seq_model.add(layers.Dense(10, activation='softmax'))
```

Functional:

```
input_tensor = Input(shape=(64,))  
x = layers.Dense(32, activation='relu')(input_tensor)  
x = layers.Dense(32, activation='relu')(x)  
output_tensor = layers.Dense(10, activation='softmax')(x)  
model = Model(input_tensor, output_tensor)
```

From Chollet, page 237

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