

The `keras.models.Sequential` class is a wrapper for the neural network model that treats the network as a sequence of layers. It implements the Keras model interface with common methods like `compile()`, `fit()`, and `evaluate()` that are used to train and run the model. We'll cover these functions soon, but first let's start looking at the layers of the model.

## Layers

The Keras Layer class provides a common interface for a variety of standard neural network layers. There are fully connected layers, max pool layers, activation layers, and more. You can add a layer to a model using the model's `add()` method. For example, a simple model with a single hidden layer might look like this:

```
import numpy as np
from keras.models import Sequential
from keras.layers.core import Dense, Activation

# X has shape (num_rows, num_cols), where the training data are stored
# as row vectors
X = np.array([[0, 0], [0, 1], [1, 0], [1, 1]], dtype=np.float32)

# y must have an output vector for each input vector
y = np.array([[0], [0], [0], [1]], dtype=np.float32)

# Create the Sequential model
model = Sequential()

# 1st Layer - Add an input layer of 32 nodes with the same input shape as
# the training samples in X
model.add(Dense(32, input_dim=X.shape[1]))

# Add a softmax activation layer
model.add(Activation('softmax'))

# 2nd Layer - Add a fully connected output layer
model.add(Dense(1))

# Add a sigmoid activation layer
model.add(Activation('sigmoid'))
```

Keras requires the input shape to be specified in the first layer, but it will automatically