"DeepLearning.AI TensorFlow Developer" Specialization

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1 Introduction to TensorFlow for AI, ML, and DL

1.1 Week 1

- **Simple example aka "Hello, World!":**
  Define NN (1 layer with 1 neuron):

```
# Build a simple Sequential model
model = tf.keras.Sequential(
[keras.layers.Dense(units=1, input_shape=[1])]
)
```

  Compile the model:

```
model.compile(optimizer='sgd', loss='mean_squared_error')
```

  Provide the data:

```
# Declare model inputs and outputs for training
xs = np.array([-1.0,  0.0, 1.0, 2.0, 3.0, 4.0], dtype=float)
ys = np.array([-3.0, -1.0, 1.0, 3.0, 5.0, 7.0], dtype=float)
```

  Train the NN:

```
# Train the model
model.fit(xs, ys, epochs=500)
```

  Use trained NN for new data:

```
# Make a prediction
print(model.predict([10.0]))
```

- ddd