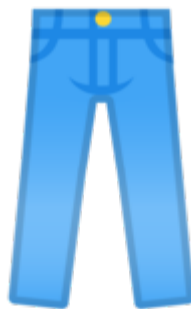


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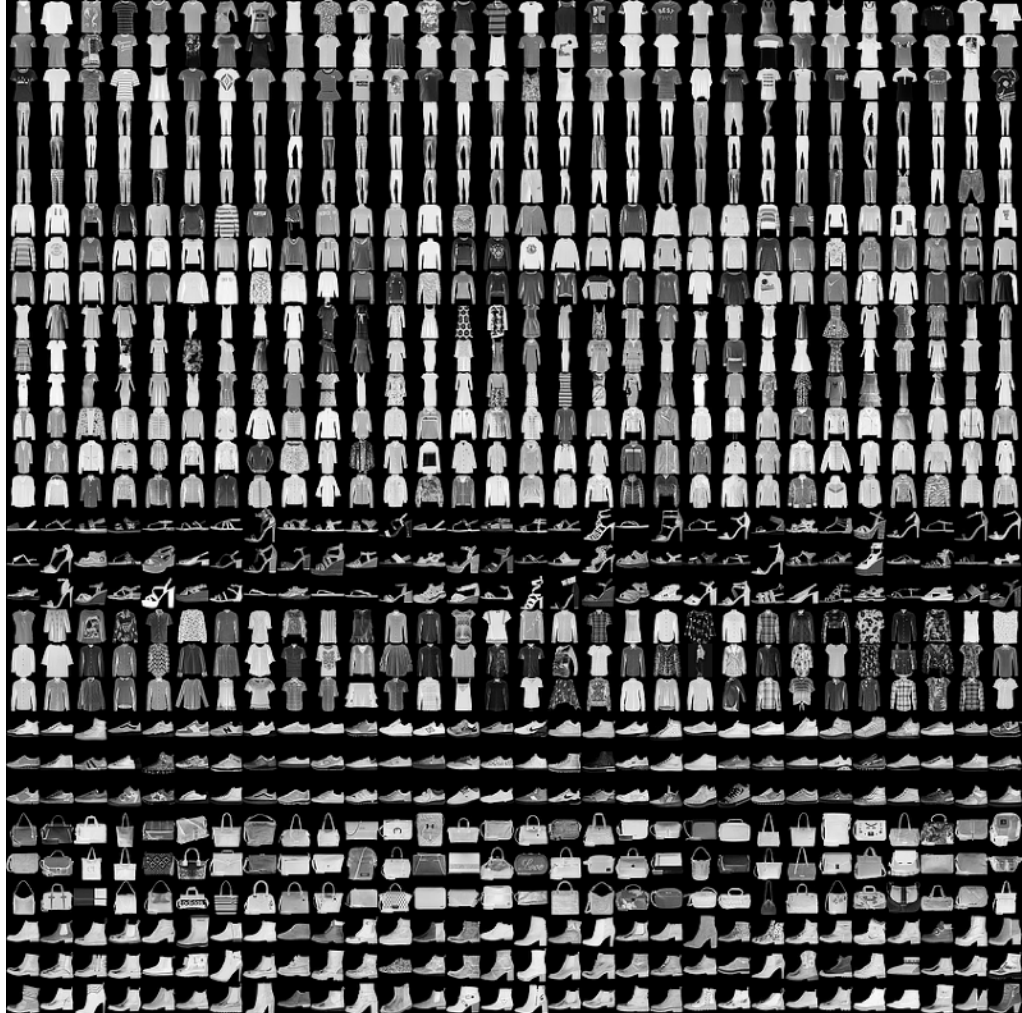
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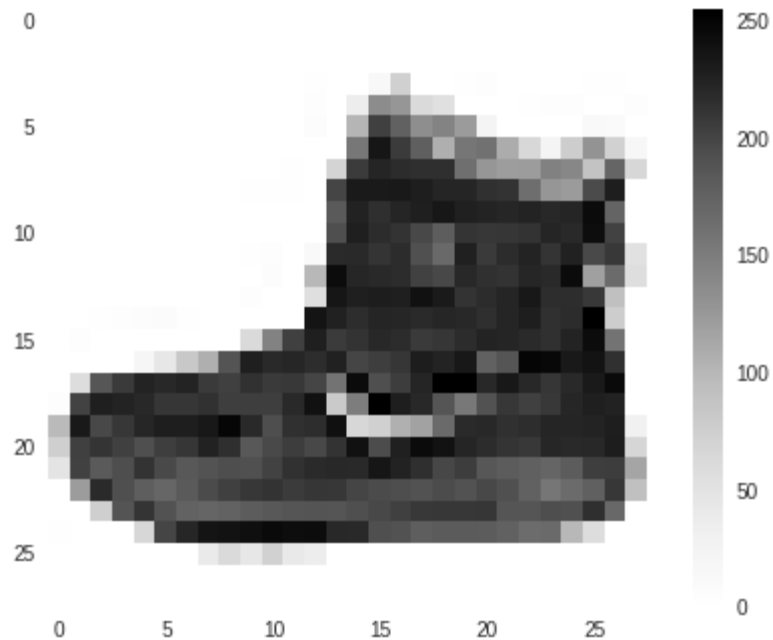
Fashion MNIST

- 70k Images
- 10 Categories
- Images are 28x28
- Can train a neural net!



Fashion MNIST

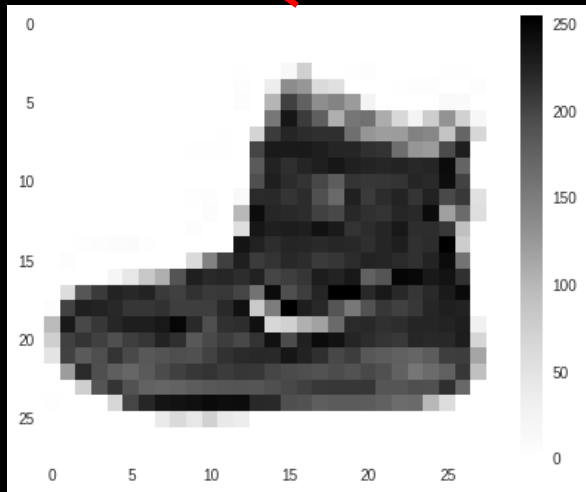
- 70k Images
- 10 Categories
- Images are 28x28
- Can train a neural net!



```
fashion_mnist = tf.keras.datasets.fashion_mnist
```

```
(train_images, train_labels), (test_images, test_labels) = fashion_mnist.load_data()
```

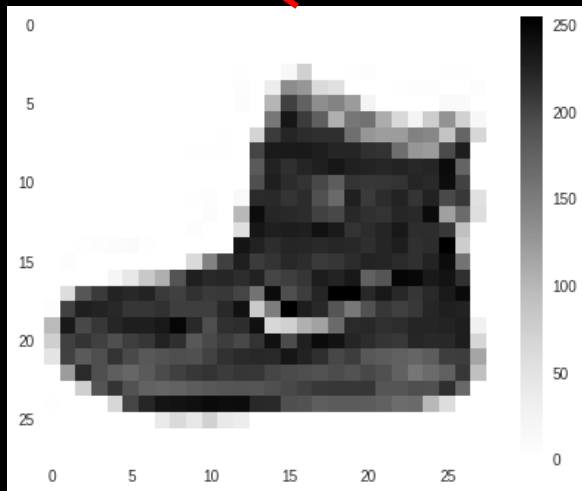
```
fashion_mnist = tf.keras.datasets.fashion_mnist
(train_images, train_labels), (test_images, test_labels) = fashion_mnist.load_data()
```



09

```
import tensorflow as tf
from tensorflow import keras
```

```
mnist = tf.keras.datasets.fashion_mnist
(train_images, train_labels), (test_images, test_labels) = mnist.load_data()
```



09

09 = ankle boot;
踝靴;
アンクルブーツ;
Bróg rúitín

```
model = keras.Sequential([  
    keras.layers.Flatten(),  
    keras.layers.Dense(128, activation=tf.nn.relu),  
    keras.layers.Dense(10, activation=tf.nn.softmax)  
])
```




w0

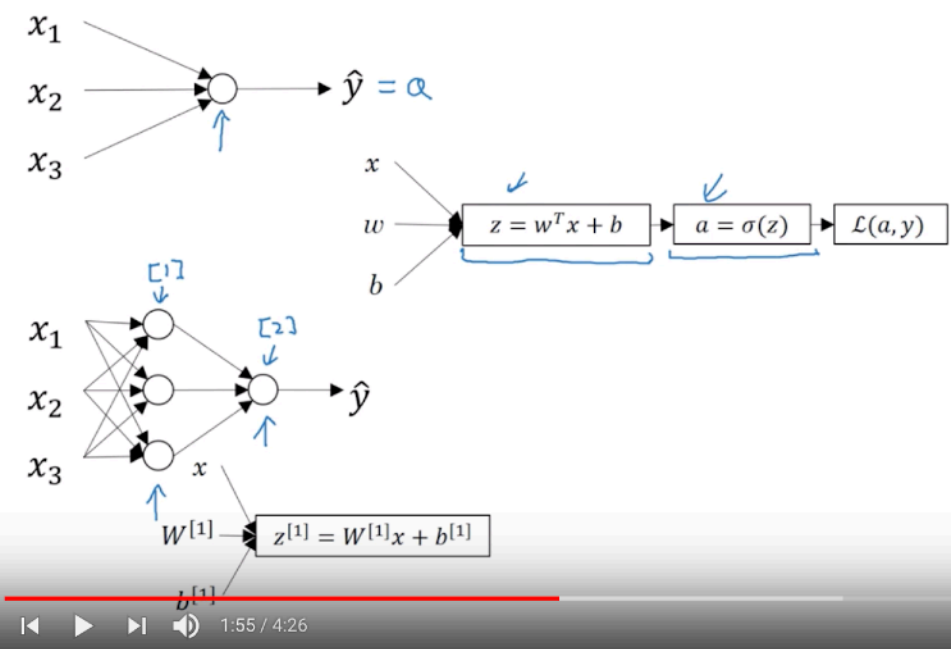
w1

w2

$$W_0x_0 + w_1x_1 + w_2x_2 \dots w_Nx_N = 9$$



What is a Neural Network?



Neural Network Overview (C1W3L01)

11,067 views

43 0 SHARE SAVE ...

neural Networks and Deep Learning (Course 1 of Deeplearning.ai - 25 / 43)

- Neural Network Overview (C1W3L01) Deeplearning.ai 4:27
- Neural Network Representations (C1W3L02) Deeplearning.ai 5:15
- Computing Neural Network Output (C1W3L03) Deeplearning.ai 9:58
- Vectorizing Across Multiple Examples (C1W3L04) Deeplearning.ai 9:06
- Explanation For Vectorized Implementation (C1W3L05) Deeplearning.ai 7:38
- Activation Functions (C1W3L06) Deeplearning.ai 10:57
- Why Non-linear Activation Functions
- Complete User Registration system using PHP and MySQL... Awa Melvine 5.7M views 32:43

```
mnist = tf.keras.datasets.fashion_mnist
(training_images, training_labels), (test_images, test_labels) = mnist.load_data()
training_images=training_images/255.0
test_images=test_images/255.0
model = tf.keras.models.Sequential([
    tf.keras.layers.Flatten(),
    tf.keras.layers.Dense(512, activation=tf.nn.relu),
    tf.keras.layers.Dense(10, activation=tf.nn.softmax)
])
model.compile(optimizer=tf.optimizers.Adam(), loss='sparse_categorical_crossentropy')
model.fit(training_images, training_labels, epochs=5)
```

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    tf.keras.layers.Dense(10, activation=tf.nn.softmax)
])
model.compile(optimizer=tf.optimizers.Adam(), loss='sparse_categorical_crossentropy')
model.fit(training_images, training_labels, epochs=5)
```

```
class myCallback(tf.keras.callbacks.Callback):  
    def on_epoch_end(self, epoch, logs={}):  
        if(logs.get('loss')<0.4):  
            print("\nLoss is low so cancelling training!")  
            self.model.stop_training = True
```

```
class myCallback(tf.keras.callbacks.Callback):
```

```
def on_epoch_end(self, epoch, logs={}):
```

```
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```



```
callbacks = myCallback()
```

```
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```
test_images=test_images/255.0
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```
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    tf.keras.layers.Dense(512, activation=tf.nn.relu),
    tf.keras.layers.Dense(10, activation=tf.nn.softmax)
])
model.compile(optimizer=tf.optimizers.Adam(), loss='sparse_categorical_crossentropy')
model.fit(training_images, training_labels, epochs=5, callbacks=[callbacks])
```