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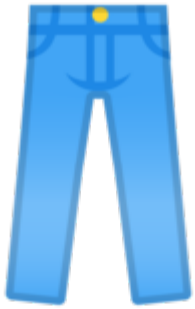
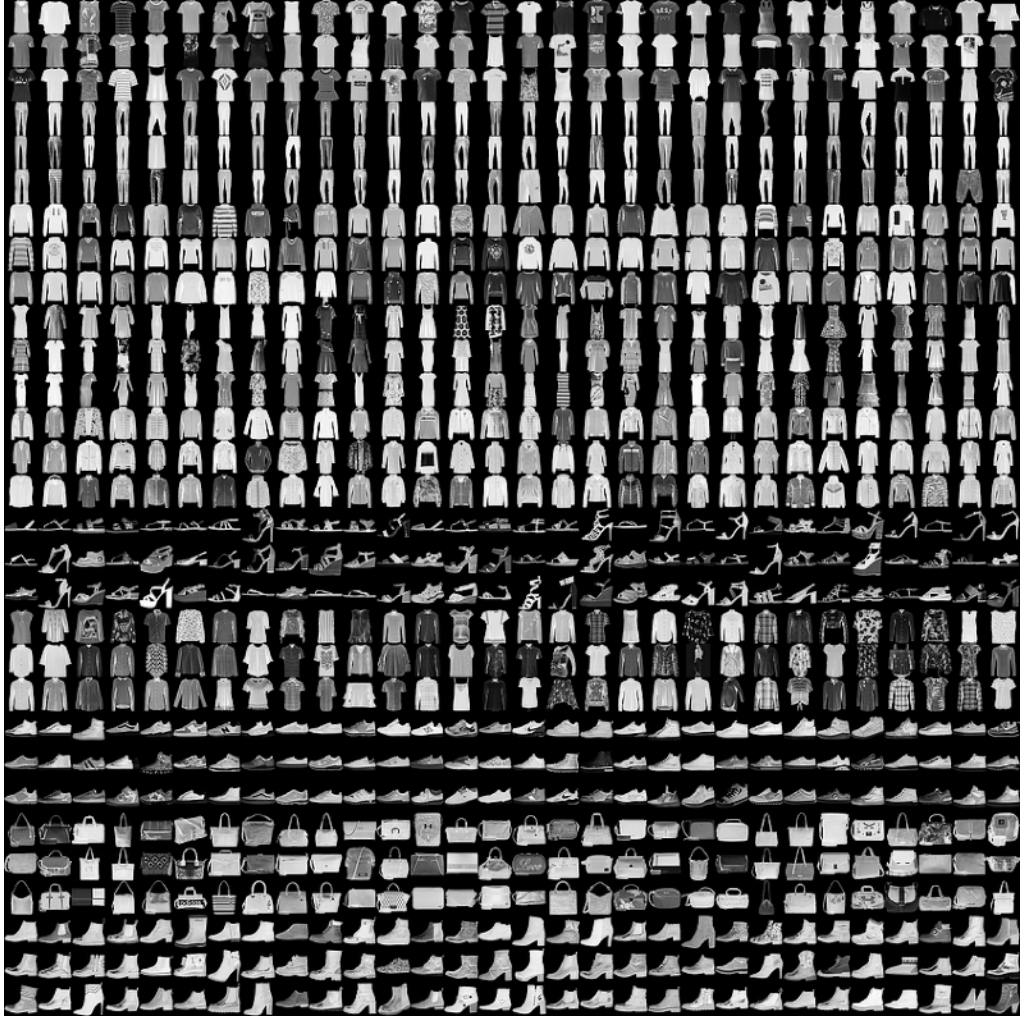


Fashion MNIST

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



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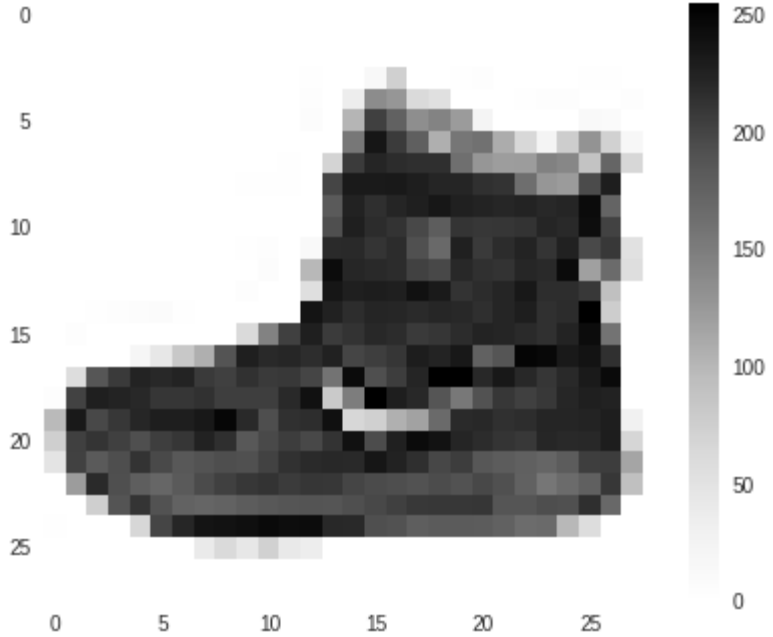

```
fashion_mnist = tf.keras.datasets.fashion_mnist

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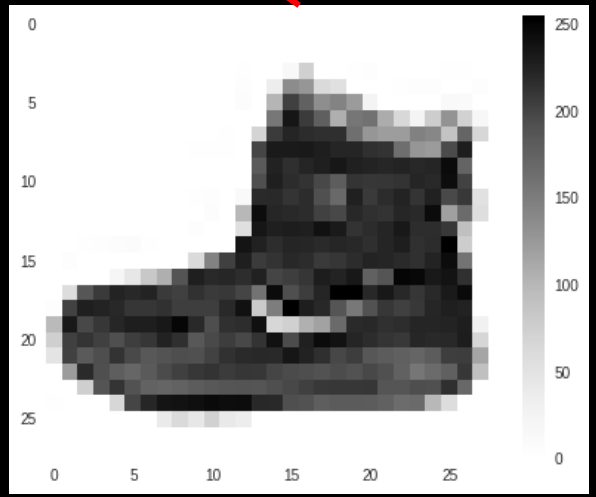
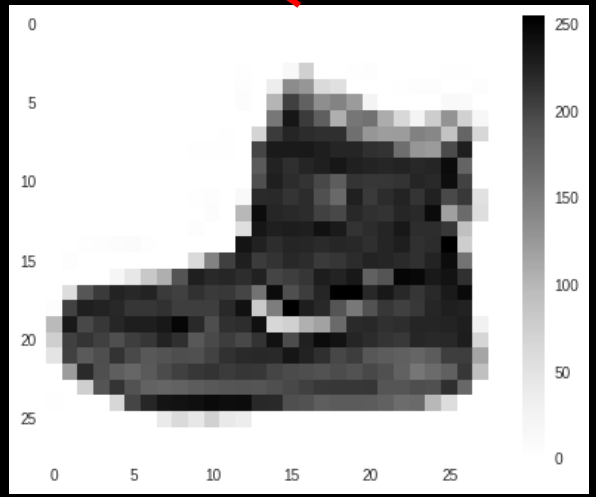


0 9

```
import tensorflow as tf
from tensorflow import keras

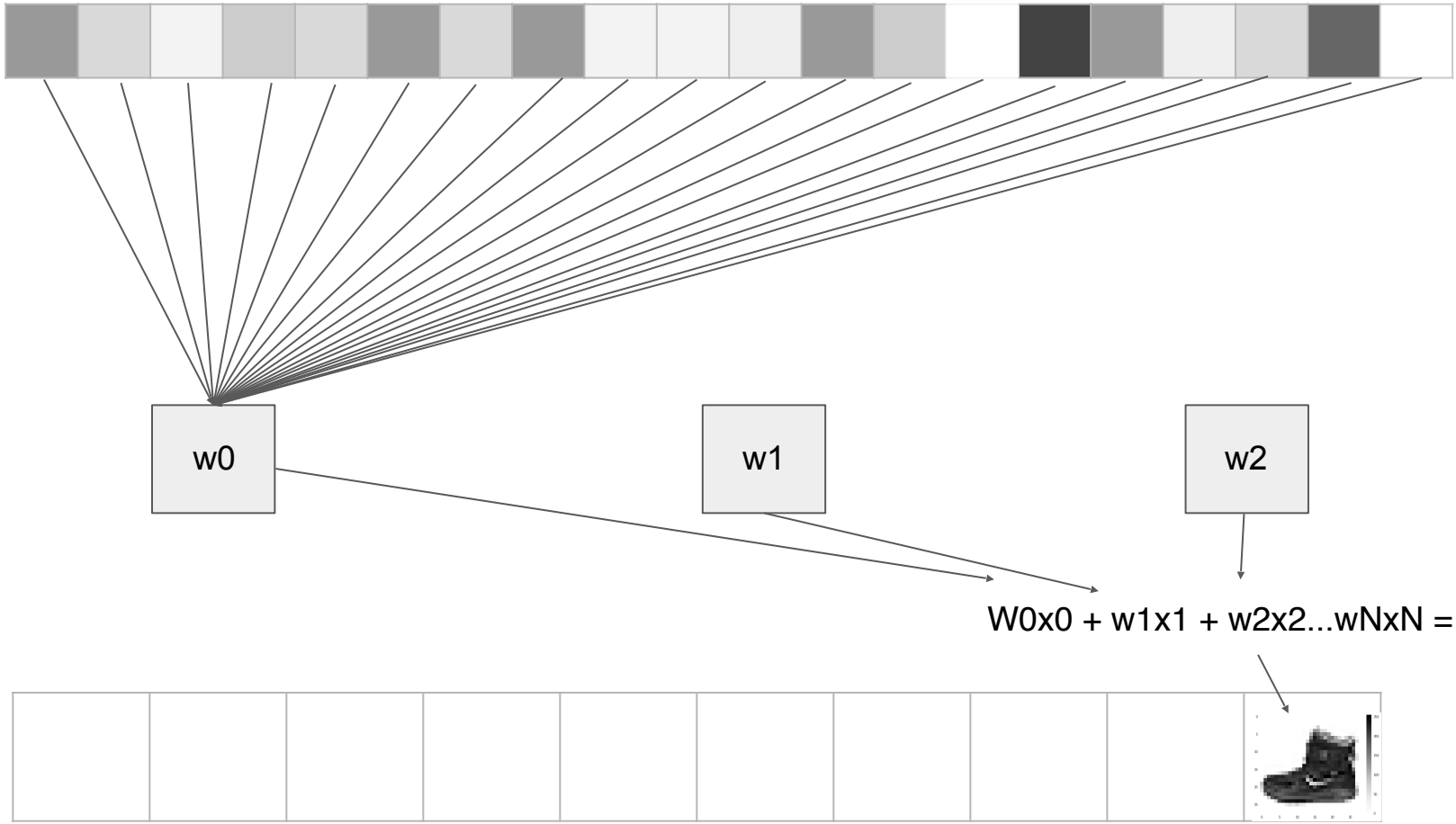
mnist = tf.keras.datasets.fashion_mnist
(train_images, train_labels), (test_images, test_labels) = mnist.load_data()
```



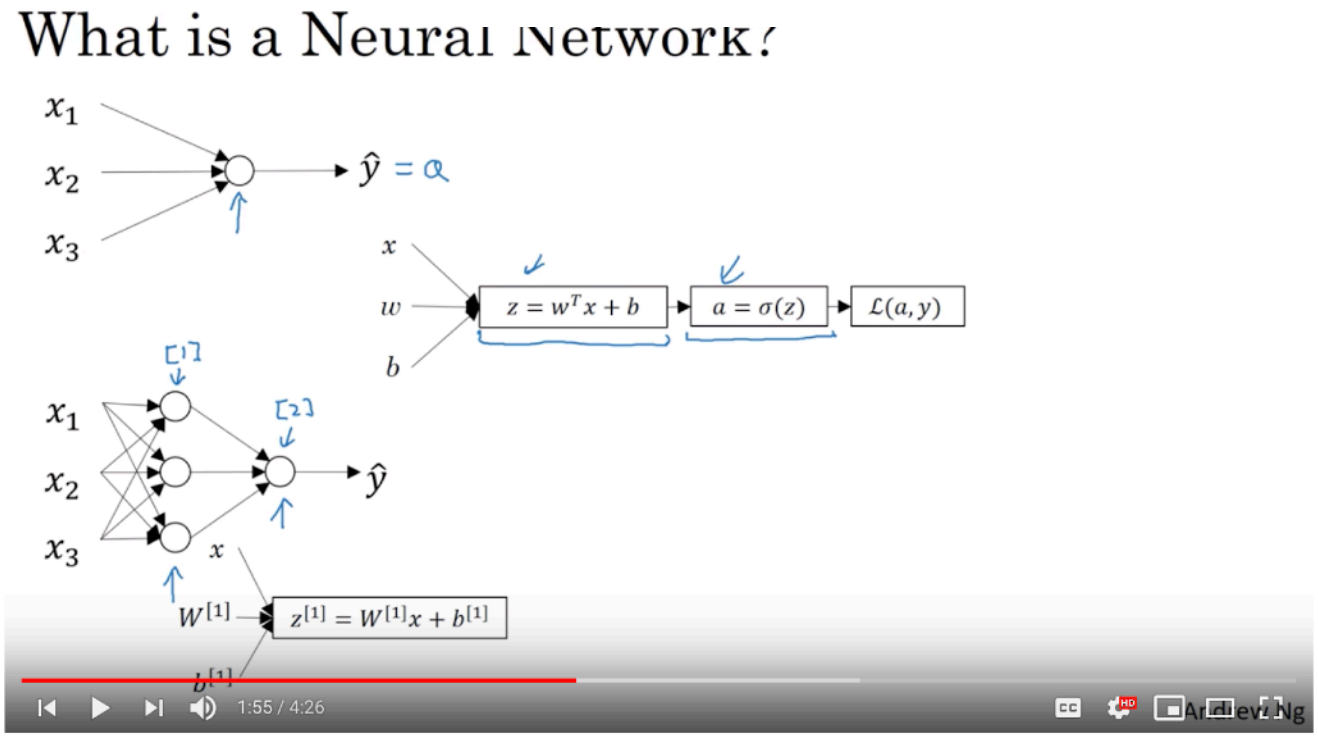
09

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
W0x0 + w1x1 + w2x2...wNxN = 9

https://youtu.be/fXOsFF95ifk



Neural Network Overview (C1W3L01)

11,067 views

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- 27 Computing Neural Network Output (C1W3L03) — Deeplearning.ai — 9:58
- 28 Vectorizing Across Multiple Examples (C1W3L04) — Deeplearning.ai — 9:06
- 29 Explanation For Vectorized Implementation (C1W3L05) — Deeplearning.ai — 7:38
- 30 Activation Functions (C1W3L06) — Deeplearning.ai — 10:57

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```
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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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
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callbacks = myCallback()
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])
model.compile(optimizer=tf.optimizers.Adam(), loss='sparse_categorical_crossentropy')
model.fit(training_images, training_labels, epochs=5, callbacks=[callbacks])
```