Lecture 20 - Tensor Flow Example

TensorFlow First Example - https://youtu.be/rAQSkZ16GXo

From Amazon S3 - for download (same as youtube videos)

TensorFlow First Example

Applications of Machine Learning

https://www.bbc.com/news/technology-54780460 Sars-Cov-2 (COVID-19) identified from sound of cough

Play a game:

https://yanpanlau.github.io/2016/07/10/FlappyBird-Keras.html

Pay in AI:

https://aipaygrad.es/

$135k to $145k a year:

https://spectrum.ieee.org/at-work/tech-careers/5-hot-engineering-jobs-for-grads

or $169k a year:

https://medium.com/towards-artificial-intelligence/artificial-intelligence-salaries-heading-skyward-e41b2a7bba7d

TensorFlow

Hello World of Tensor Flow: from: https://www.tensorflow.org/tutorials/quickstart/beginner There are also 2 YouTube videos to watch: https://www.tensorflow.org/tutorials

```
# Download and install the TensorFlow 2 package. Import TensorFlow into your program:

from __future__ import absolute_import, division, print_function, unicode_literals

# Install TensorFlow

import tensorflow as tf

# Load and prepare the MNIST dataset. Convert the samples from integers to floating-poi
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```
mnist = tf.keras.datasets.mnist

(x_train, y_train), (x_test, y_test) = mnist.load_data()
x_train, x_test = x_train / 255.0, x_test / 255.0

# Build the tf.keras.Sequential model by stacking layers. Choose an optimizer and loss

model = tf.keras.models.Sequential([
  tf.keras.layers.Flatten(input_shape=(28, 28)),
  tf.keras.layers.Dense(128, activation='relu'),
  tf.keras.layers.Dropout(0.2),
  tf.keras.layers.Dense(10, activation='softmax')
])

model.compile(optimizer='adam',
              loss='sparse_categorical_crossentropy',
              metrics=['accuracy'])

# Train and evaluate the model:

model.fit(x_train, y_train, epochs=5)

model.evaluate(x_test,  y_test, verbose=2)
```