Google Cloud

# TensorFlow on Google Cloud

## Readings and Videos

### Module 1: Introduction to the TensorFlow Ecosystem

Introduction on TensorFlow 2.0

Getting started with TensorFlow 2

ASL Webinar: TensorFlow with Ryan Giliard

Introduction to TensorFlow 2.0: Easier for beginners, and more powerful for experts (TF World '19)

Machine Learning - Zero to Hero

Demonstration of TensorFlow Feature Columns (tf.feature_column)

Introduction to Tensors

Introduction to Tensors and its Types

Tensorflow Records? What they are and how to use them

TFRecord and tf.train.Example

Hands on Tensorflow Data Validation

Using Tensorflow's Feature Column API for Feature Engineering

### Module 2: Design and Build an Input Data Pipeline

Demonstration of TensorFlow Feature Columns (tf.feature_column)

Using Tensorflow's Feature Column API for Feature Engineering

tf.data: Build TensorFlow input pipelines

Inside TensorFlow: tf.data - TF Input Pipeline

TensorFlow Datasets

Inside TensorFlow: tf.data + tf.distribute

Designing a neural network | Text Classification Tutorial Pt. 2 (Coding TensorFlow)

### Module 3: Building Neural Networks with the TensorFlow and Keras API

Machine Learning - Zero to Hero

Introduction to TensorFlow 2.0: Easier for beginners, and more powerful for experts (TF World '19)

How to Use the Keras Functional API for Deep Learning

3 ways to create a Keras model with TensorFlow 2.0 (Sequential, Functional, and Model Subclassing)

Tf.keras - part 1

Tf.keras - part 2

The Keras Functional API

Guide to the Functional API

Developing with the Keras Functional API

Google: Regularization for Simplicity

Google Machine Learning Glossary

Regularization Clearly Explained

Lasso and Ridge Regression

Ridge Regression

A Gentle Introduction to Early Stopping to Avoid Overtraining Neural Networks

## Module 4: Training at Scale with Vertex AI

Train TensorFlow Models at Scale

Scaling TensorFlow 2 models to multi-worker GPUs more powerful for experts (TF World '19)

Training at Scale

Distributed Training with TensorFlow