Introduction to Feature

Columns

02:00:00

Start Lab

2 hours Free ** * Rate Lab

Setup Launch Al Platform Notebooks Clone course repo within your Al Platform Notebooks instance Feature Columns End your lab

Overview

Feature columns serve as a bridge to map from columns in a CSV file to features used to train a model. In a subsequent lab, we will use Keras to define the model.

Overview

Learning Objectives

In this lab, you classify structured data (e.g. tabular data in a CSV file) using feature columns.

• Create an input pipeline using tf.data

Create multiple types of feature columns

• Load a CSV file using Pandas

cost.

2. Note the lab's access time (for example, 02:00:00 and make sure you can finish in that time block.

For each lab, you get a new Google Cloud project and set of resources for a fixed time at no

There is no pause feature. You can restart if needed, but you have to start at the beginning.

3. When ready, click START LAB 4. Note your lab credentials. You will use them to sign in to the Google Cloud Console.

Caution: When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked. Learn more.

google2876526_student@qwiklabs.n 📋 Password TG959yrKDX **GCP Project ID** Ê qwiklabs-gcp-0855e773352d3560 New to labs? View our introductory video! 6. Click **Use another account** and copy/paste credentials for **this** lab into the prompts. If you use other credentials, you'll get errors or incur charges. 7. Accept the terms and skip the recovery resource page.

your work and removes the project.

ARTIFICIAL INTELLIGENCE Data Labeling

Dashboard

Notebooks

Al Hub

Jobs

Models

Talent Solution

Tables

Al Platform

Natural Language

Vision On the Notebook instances page, click + NEW INSTANCE . Select TensorFlow 2.x without GPUs.

> Create and use Jupyter Notebooks with a no JupyterLab pre-installed and are configured

frameworks. Learn more

No notebook instances to display

₩ Filter table

→ ■ NEW INSTANCE C REFRESH

R 3.6 and key libraries pre-installed

TensorFlow 1.14 pre-installed with support for Keras

TensorFlow 2.0 pre-installed with support for Keras

TensorFlow 1.14

TensorFlow 2.0

PvTorch 1.2 pre-installed

Pytorch 1.2

0

Without GPUs

With 1 NVIDIA Tesla K80

Packages: python2, python3, scikit-learn, pandas, and nltk. Region and zone: us-west1-b Machine type: 4 vCPUs, 15 GB RAM Boot disk: 100 GB Disk Networking: Subnetwork * default(10.138.0.0/20) External IP: Ephemeral(Automatic) Permission: Compute Engine default service account \$99.89 monthly, \$0.137 hourly CUSTOMIZE CANCEL **CREATE** The new VM will take 2-3 minutes to start. Step 3 Click Open JupyterLab. A JupyterLab window will open in a new tab. Git Tabs Settings Help Launcher **Last Modified** Notebook 3 hours ago

Python 3

>_ Console

Python 3

\$_

Other

Python 2

Text File

Tensorboard

Notebooks instance To clone the training-data-analyst notebook in your JupyterLab instance:

Notebook

Python 3

Python 3

Terminal

Other

Console

Text File

Tensorboard

Python 2

Python 2

File Edit View Run Kernel Git ♠ > training-data-analyst **Last Modified** Name blogs 2 minutes ago bootcamps 2 minutes ago courses 2 minutes ago □ CPB100 2 minutes ago

deepdive2 > introduction_to_tensorflow > labs and open feat.cols_tf.data.ipynb. Step 2

In the notebook interface, click on Edit > Clear All Outputs (click on Edit, then in the drop-down

Carefully read through the notebook instructions and fill in lines marked with #TODO where

In the notebook interface, navigate to training-data-analyst > courses > machine_learning >

hints (they are in white text). • If you need more help, you may take a look at the complete solution by navigating to training-data-analyst > courses > machine_learning > deepdive2 > introduction_to_tensorflow > solutions and open feat.cols_tf.data.ipynb.

End your lab

stars, type a comment, and then click Submit. The number of stars indicates the following:

• 1 star = Very dissatisfied • 2 stars = Dissatisfied • 3 stars = Neutral

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1. Make sure you signed into Qwiklabs using an incognito window.

Setup

Open Google Console

Username

5. Click Open Google Console.

Do not click **End Lab** unless you are finished with the lab or want to restart it. This clears

Launch Al Platform Notebooks To launch AI Platform Notebooks: Step 1 Click on the Navigation Menu. Navigate to AI Platforms, then to Notebooks.

Translation Step 2

Al Hub Data Labeling

Al Platform

In the pop-up, confirm the name of the deep learning VM, move to the bottom of the window and click Create. New notebook instance

Instance name * ---tensorflow-20191031-100408 **Environment:** Image: TensorFlow 2.0 (with Intel® MKL-DNN/MKL and CUDA 10.0)

src src 3 hours ago

Clone course repo within your Al Platform Step 1 In JupyterLab, click the Terminal icon to open a new terminal. Launcher

Step 2 At the command-line prompt, type in the following command and press Enter. git clone https://github.com/GoogleCloudPlatform/training-data-analyst Step 3 Confirm that you have cloned the repository by double clicking on the training-dataanalyst directory and ensuring that you can see its contents. The files for all the Jupyter notebook-based labs throughout this course are available in this directory.

self-paced-l... CONTRIBU... LICENSE README.md **Feature Columns** Step 1

menu, select Clear All Outputs).

datalab

quests

you need to complete the code as needed Tip: To run the current cell you can click the cell and hit shift+enter. Other cell commands are found in the notebook UI under Run. • Hints may also be provided for the tasks to guide you along. Highlight the text to read the

When you have completed your lab, click End Lab. Qwiklabs removes the resources you've used and cleans the account for you. You will be given an opportunity to rate the lab experience. Select the applicable number of

 4 stars = Satisfied • 5 stars = Very satisfied You can close the dialog box if you don't want to provide feedback.

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