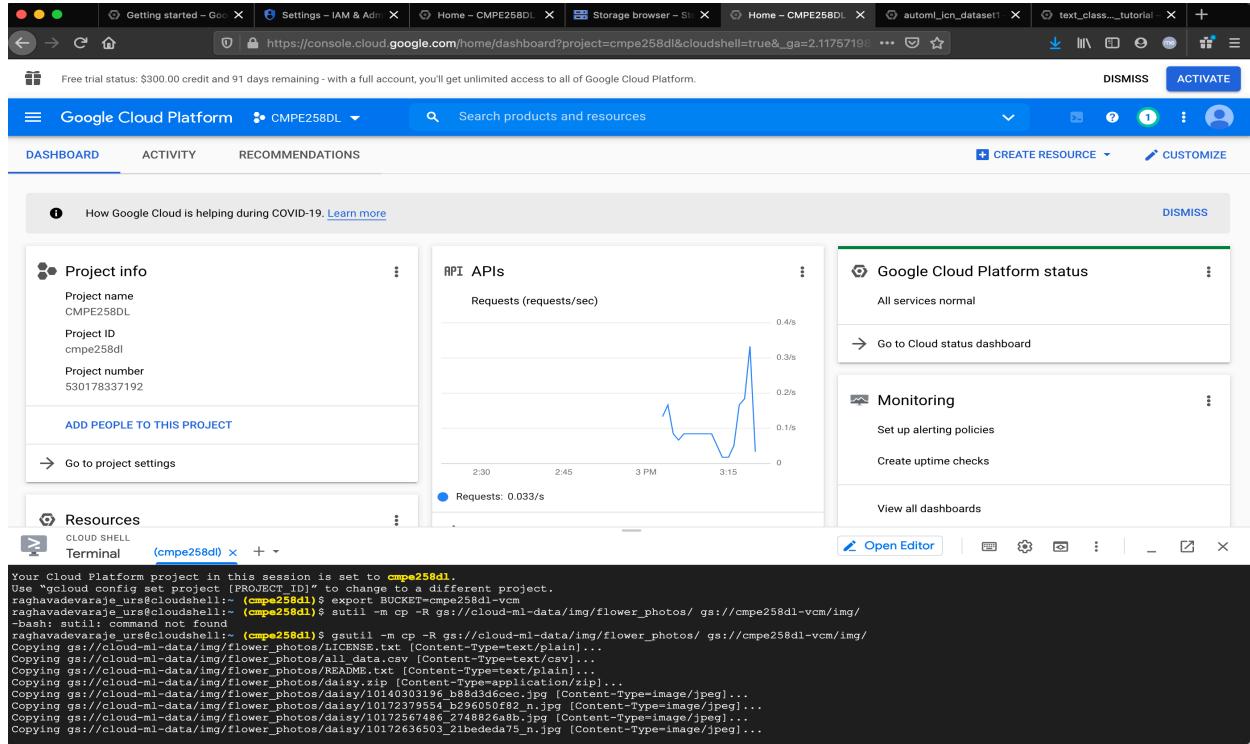


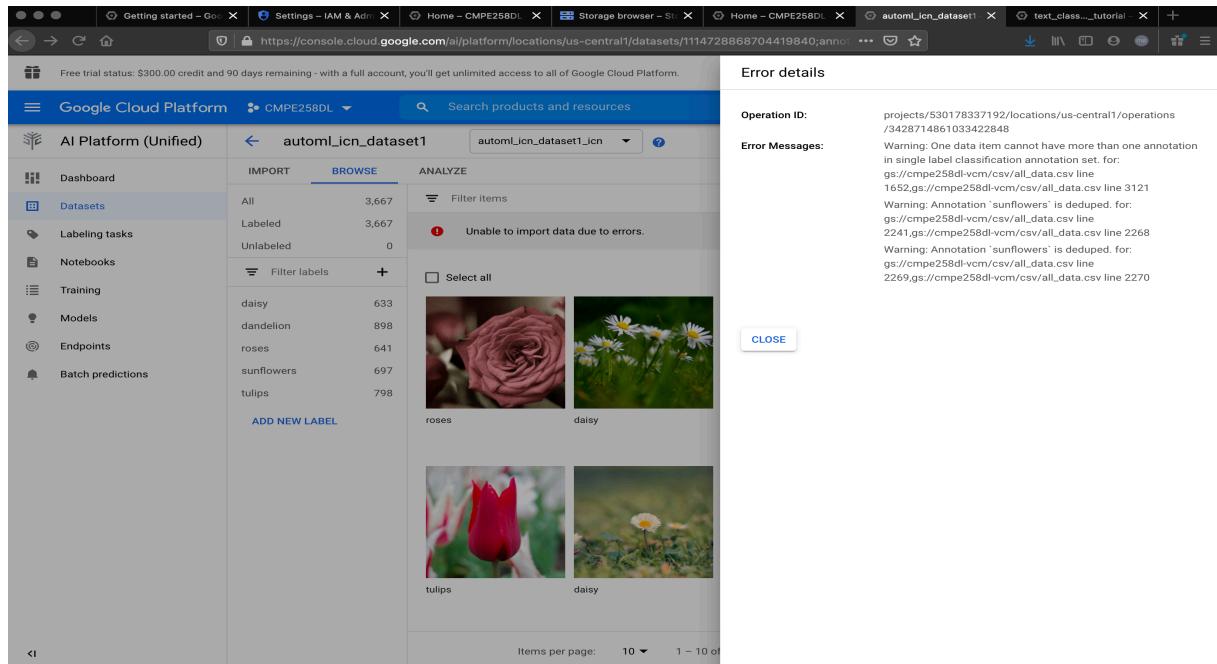
# AI Platform: Hello Image data

## Create a Cloud Project and Storage bucket



```
Your Cloud Platform project in this session is set to cmpe258dl.
Use `gcloud config set project [PROJECT_ID]` to change to a different project.
raghavadevaraj@raghavadevaraj-OptiPlex-5090:~ (cmpe258dl)$ export BUCKET=cmpe258dl-vcm
raghavadevaraj@raghavadevaraj-OptiPlex-5090:~ (cmpe258dl)$ gsutil -m cp -R gs://cloud-ml-data/img/flower_photos/ gs://cmpe258dl-vcm/img/
gsutil: warning: command not found.
raghavadevaraj@raghavadevaraj-OptiPlex-5090:~ (cmpe258dl)$ gsutil -m cp -R gs://cloud-ml-data/img/flower_photos/LICENSE.txt gs://cmpe258dl-vcm/img/
Copying gs://cloud-ml-data/img/flower_photos/LICENSE.txt [Content-Type=text/plain]...
Copying gs://cloud-ml-data/img/flower_photos/daisy.zip [Content-Type=application/zip]...
Copying gs://cloud-ml-data/img/flower_photos/daisy/10140303196_b8d8d6ec.jpg [Content-Type=image/jpeg]...
Copying gs://cloud-ml-data/img/flower_photos/daisy/10172367486_274882648b.jpg [Content-Type=image/jpeg]...
Copying gs://cloud-ml-data/img/flower_photos/daisy/1017236503_21bededa75_n.jpg [Content-Type=image/jpeg]...
Copying gs://cloud-ml-data/img/flower_photos/daisy/1017236503_21bededa75_n.jpg [Content-Type=image/jpeg]...
```

Showing the error message that the dataset can throw if a data item is having more than one annotation in a single label classification annotation set.



Error details

Operation ID: projects/530178337192/locations/us-central1/operations/3428714861033422848

Error Messages:

```
Warning: One data item cannot have more than one annotation in single label classification annotation set. for: gs://cmpe258dl-vcm/csv/all_data.csv line 1652,gs://cmpe258dl-vcm/csv/all_data.csv line 3121
Warning: Annotation 'sunflowers' is deduped, for: gs://cmpe258dl-vcm/csv/all_data.csv line 2268
Warning: Annotation 'sunflowers' is deduped, for: gs://cmpe258dl-vcm/csv/all_data.csv line 2241,gs://cmpe258dl-vcm/csv/all_data.csv line 2268
Warning: Annotation 'sunflowers' is deduped, for: gs://cmpe258dl-vcm/csv/all_data.csv line 2269,gs://cmpe258dl-vcm/csv/all_data.csv line 2270
```

A new Model is trained by either going via Models on the left navigation > then clicking on Create > Train new model (or) going into the data set and selecting the option: Train New Model in the right side.

Free trial status: \$300.00 credit and 90 days remaining - with a full account, you'll get unlimited access to all of Google Cloud Platform.

**DISMISS** **ACTIVATE**

**Google Cloud Platform** **CMPE258DL** **Search products and resources**

**AI Platform (Unified)** **automl\_icn\_dataset1** **automl\_icn\_dataset1\_icn** **?**

**Dashboard** **BROWSE** **ANALYZE**

**Datasets** **All** **3,667** **Labeled** **3,667** **Unlabeled** **0**

**Labeling tasks** **Notebooks** **Training** **Models** **Endpoints** **Batch predictions**

**Import** **Filter items** **Details** **Dismiss**

**Unable to import data due to errors.**

**Select all**

**Training jobs and models**

Use this dataset to train a new machine learning model with AutoML or custom code.

**TRAIN NEW MODEL**

**Labeling tasks**

If your data still needs to be labeled, create a labeling task to have others label it for you.

**Create Labeling Task**

**ADD NEW LABEL**

**Items per page:** **10** **1 – 10 of many**

Upgrade your account to avoid a break in service (\$89.79 credit and 64 days left in your trial).

**LEARN MORE** **UPGRADE**

**Google Cloud Platform** **CMPE258DL** **Search products and resources**

**AI Platform (Unified)** **automl\_icn\_dataset1** **automl\_icn\_dataset1\_icn** **?**

**Dashboard** **BROWSE** **ANALYZE**

**Datasets** **All** **3,667** **Labeled** **3,667** **Unlabeled** **0**

**Labeling tasks** **Notebooks** **Training** **Models** **Endpoints** **Batch predictions**

**Import** **Filter items**

**Imported 3,667 items from 10 datasets**

**Training jobs and models**

automl\_icn\_image\_classification\_model1

**Model type: Image classification**

**Resume Training**

**TRAIN NEW MODEL**

**Labeling tasks**

If your data still needs to be labeled, create a labeling task to have others label it for you.

**Create Labeling Task**

**ADD NEW LABEL**

**Items per page:** **10** **1 – 10 of many**

Getting started - Go | Settings - IAM & Adr | Home - CMPE258DI | Storage browser - SI | Home - CMPE258DI | automl\_icn\_dataset1 | text\_class...\_tutorial | +

https://console.cloud.google.com/ai/platform/locations/us-central1/datasets/1114728868704419840;annotationSets/automl\_icn\_annotationSet1;annotationSets/automl\_icn\_annotationSet1\_icn

Train new model

1 Choose training method  
2 Define your model  
3 Compute and pricing

Dataset: automl\_icn\_dataset1  
Annotation set: automl\_icn\_annotationSet1\_icn  
Objective: Image classification (Single-label)

Please refer to the pricing guide for more details (and available deployment options) for each method.

AutoML  
Train high-quality models with minimal effort and machine learning expertise. Just specify how long you want to train. [Learn more](#)

AutoML Edge  
Train a model that can be exported for on-prem/on-device use. Typically has lower accuracy. [Learn more](#)

Custom training (advanced)  
Run your TensorFlow, scikit-learn, and XGBoost training applications in the cloud. Train with one of Google Cloud's pre-built containers or use your own. [Learn more](#)

CONTINUE

Dashboard Datasets Labeling tasks Notebooks Training Models Endpoints Batch predictions

All Labels Unlabeled daisy dandelion roses sunflower tulips ADI

Getting started - Go | Settings - IAM & Adr | Home - CMPE258DI | Storage browser - SI | Home - CMPE258DI | automl\_icn\_dataset1 | text\_class...\_tutorial | +

https://console.cloud.google.com/ai/platform/locations/us-central1/datasets/1114728868704419840;annotationSets/automl\_icn\_annotationSet1;annotationSets/automl\_icn\_annotationSet1\_icn

Train new model

1 Choose training method  
2 Define your model  
3 Compute and pricing

START TRAINING CANCEL

Enter the maximum number of node hours you want to spend training your model.

You can train for as little as 8 node hours. You may also be eligible to train with free node hours. [Pricing guide](#)

Budget \* 8 Maximum node hours

Estimated completion date: Feb 18, 2021 5 PM GMT-8

Enable early stopping  
Ends model training when no more improvements can be made and refunds leftover training budget. If early stopping is disabled, training continues until the budget is exhausted.

Dashboard Datasets Labeling tasks Notebooks Training Models Endpoints Batch predictions

All Labels Unlabeled daisy dandelion roses sunflower tulips ADI

Free trial status: \$300.00 credit and 88 days remaining - with a full account, you'll get unlimited access to all of Google Cloud Platform.

**DISMISS** **ACTIVATE**

**Google Cloud Platform** **CMPE258DL** **Search products and resources**

**AI Platform (Unified)** **automl\_image\_classification\_model1** **VIEW DATASET**

EVALUATE **DEPLOY & TEST** BATCH PREDICTIONS MODEL PROPERTIES

**Deploy your model**

Endpoints are machine learning models made available for online prediction requests. Endpoints are useful for timely predictions from many users (for example, in response to an application request). You can also request batch predictions if you don't need immediate results.

**DEPLOY TO ENDPOINT**

Endpoint	ID	Models	Region	Last updated	API	Notification	Metadata	Encryption
No active endpoints containing this model								

**Test your model** **PREVIEW**

**In order to test your model, you will need to deploy it first.** [Pricing guide](#)

**Your model must be successfully deployed to an endpoint before you can test it.**

**Deploy to endpoint**

**Define your endpoint**

**Create new endpoint** **Add to existing endpoint**

Endpoint name \* **hello\_automl\_image**

**Model settings**

**automl\_image\_classification\_model1**

Traffic split \* **100**

AutoML Image classification and object detection models require a fixed number of compute nodes per model. If you want to change your compute resources for this model in the future, you will have to create a new endpoint. [Pricing guide](#)

The number of nodes you specify in the input field below will always be ready, and you will be charged continuously for them. [Learn more about nodes and prediction cost](#)

**Number of compute nodes \*** **1**

The number of nodes to allocate for this endpoint.

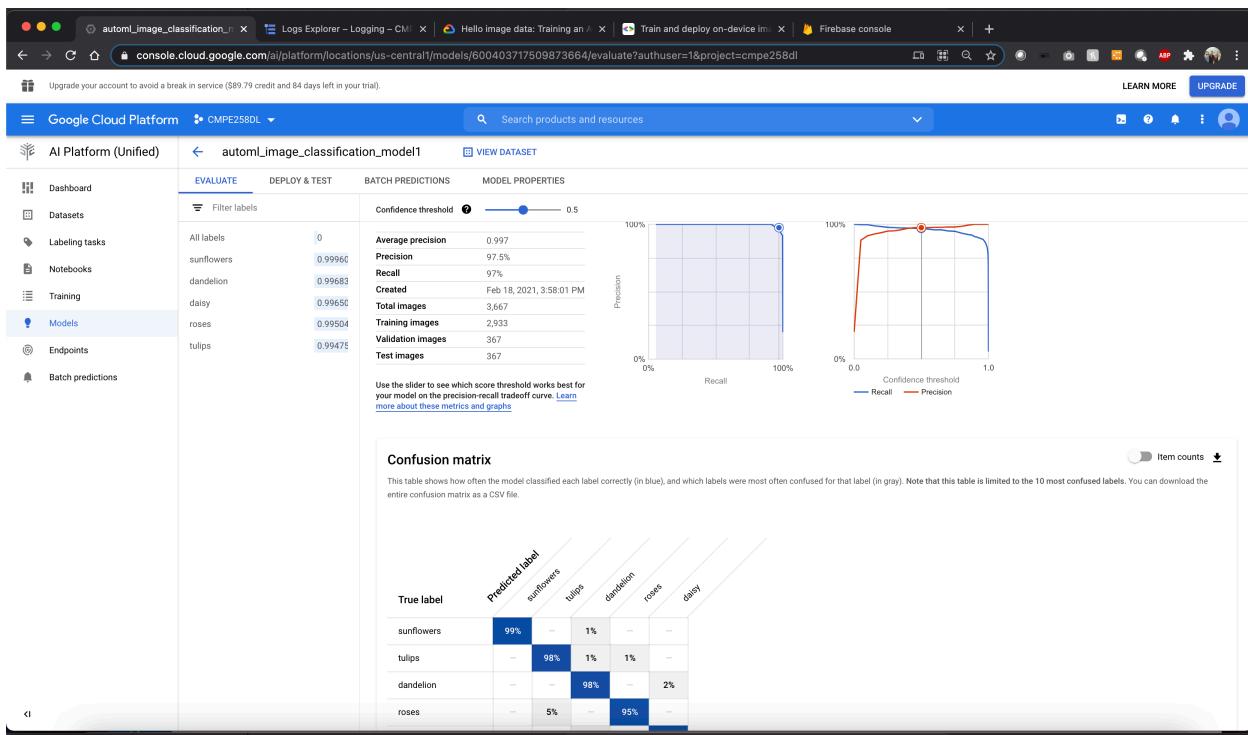
**Logging**

Logging settings are permanent for this endpoint, and Stackdriver charges will apply. To change your logging preference in the future, create a new endpoint.

**Enable access logging for this endpoint** **✓**

It may take several minutes for endpoint settings to take effect.

**CANCEL** **DONE**



Google Cloud Platform - AI Platform (Unified) - Datasets

PREVIEW + CREATE

Managed datasets contain data used to train a machine learning model

Region: us-central1 (Iowa)

Name	ID	Region	Type	Items	Labels	Last updated	Status	Metadata
Structured_AutoML_Tutorial	5332912869690310656	us-central1	Tabular	-	-	February 20, 2021	Created dataset	⋮
automl_video_classification	8437581862808846336	us-central1	Video	500	-	February 18, 2021	Finished importing data	⋮
automl_video_classification_vcn		us-central1	Video classification	-	5	February 18, 2021	⋮	⋮
text_classification_tutorial	4906759754950377472	us-central1	Text	11,947	-	February 18, 2021	Finished importing data	⋮
text_classification_tutorial_tcn		us-central1	Text classification (Single-label)	-	7	February 18, 2021	⋮	⋮
automl_icn_dataset1	1114728868704419840	us-central1	Image	3,667	-	February 18, 2021	Finished importing data	⋮
automl_icn_dataset1_icn		us-central1	Image classification (Single-label)	-	5	February 18, 2021	⋮	⋮

Training pipelines – Training - Train and deploy on-device ... | Firebase console

console.cloud.google.com/ai/platform/training/training-pipelines?authuser=1&project=cmpe258dl

Upgrading your account to avoid a break in service (\$89.79 credit and 84 days left in your trial).

LEARN MORE UPGRADE

Google Cloud Platform CMPE258DL

AI Platform (Unified)

Training PREVIEW + CREATE

Search products and resources

REFRESH

TRAINING PIPELINE CUSTOM JOB HYPERPARAMETER TUNING

Training pipelines are the primary model training workflow in AI Platform (Unified). You can use training pipelines to create an AutoML-trained model or a custom-trained model. For custom-trained models, training pipelines orchestrate custom training jobs and hyperparameter tuning with additional steps like adding a dataset or uploading the model to AI Platform for prediction serving. [Learn More](#)

Region us-central1 (Iowa) ⚡

Filter training pipelines...

Name	ID	Job type	Model type	Status	Created	Elapsed time
automl_video_classification_model1	2651335950939979776	Training pipeline	Video classification	Succeeded	Feb 20, 2021, 11:08:21 AM	2 hr 4 min
Structured_AutoML_Tutorial_2021220193125	149841444633132800	Training pipeline	Tabular classification	Succeeded	Feb 20, 2021, 11:34:19 AM	1 hr 7 min
hello_custom	32747854216803840	Training pipeline	Custom	Succeeded	Feb 20, 2021, 12:24:06 PM	13 min 21 sec
automl_text_classification_model1	7357034611588726784	Training pipeline	Text classification (Single-label)	Succeeded	Feb 18, 2021, 3:36:25 PM	4 hr 24 min
automl_image_classification_model1	3227233753299981952	Training pipeline	Image classification (Single-label)	Succeeded	Feb 18, 2021, 3:32:15 PM	23 min 59 sec

Models – AI Platform (Unified) - Train and deploy on-device ... | Firebase console

console.cloud.google.com/ai/platform/models?authuser=1&project=cmpe258dl

Upgrading your account to avoid a break in service (\$89.79 credit and 84 days left in your trial).

LEARN MORE UPGRADE

Google Cloud Platform CMPE258DL

AI Platform (Unified)

Models PREVIEW + CREATE IMPORT

Search products and resources

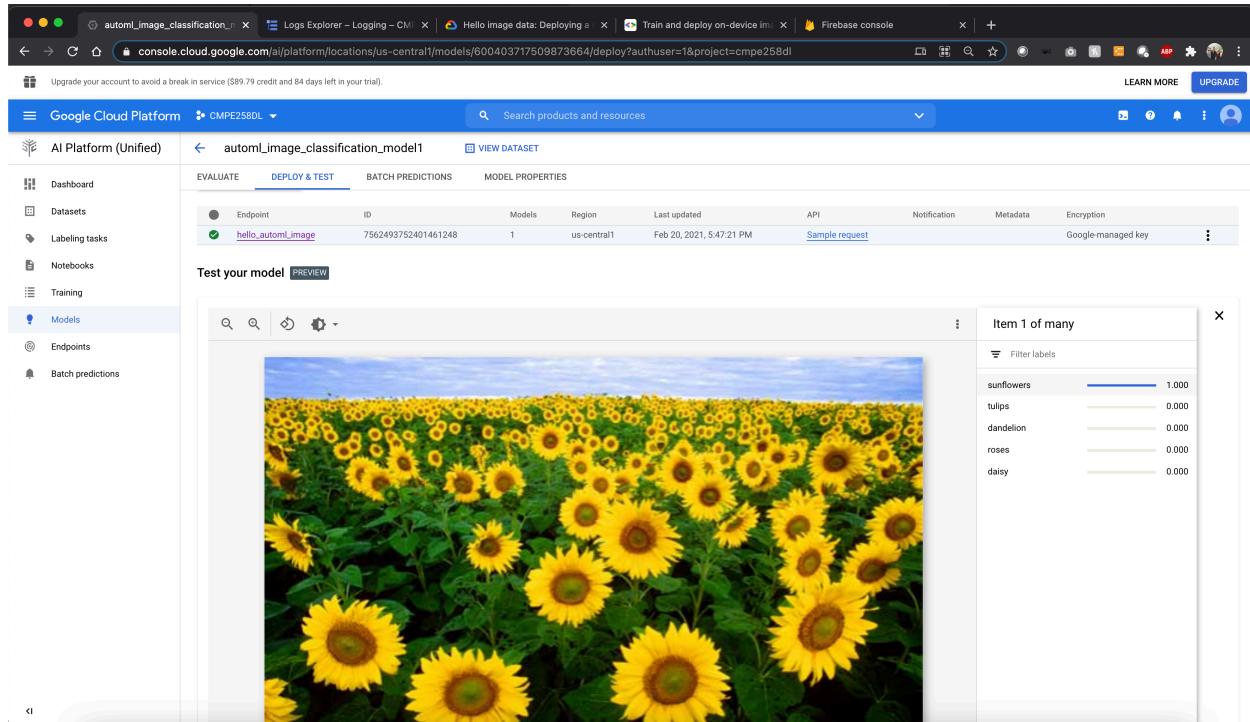
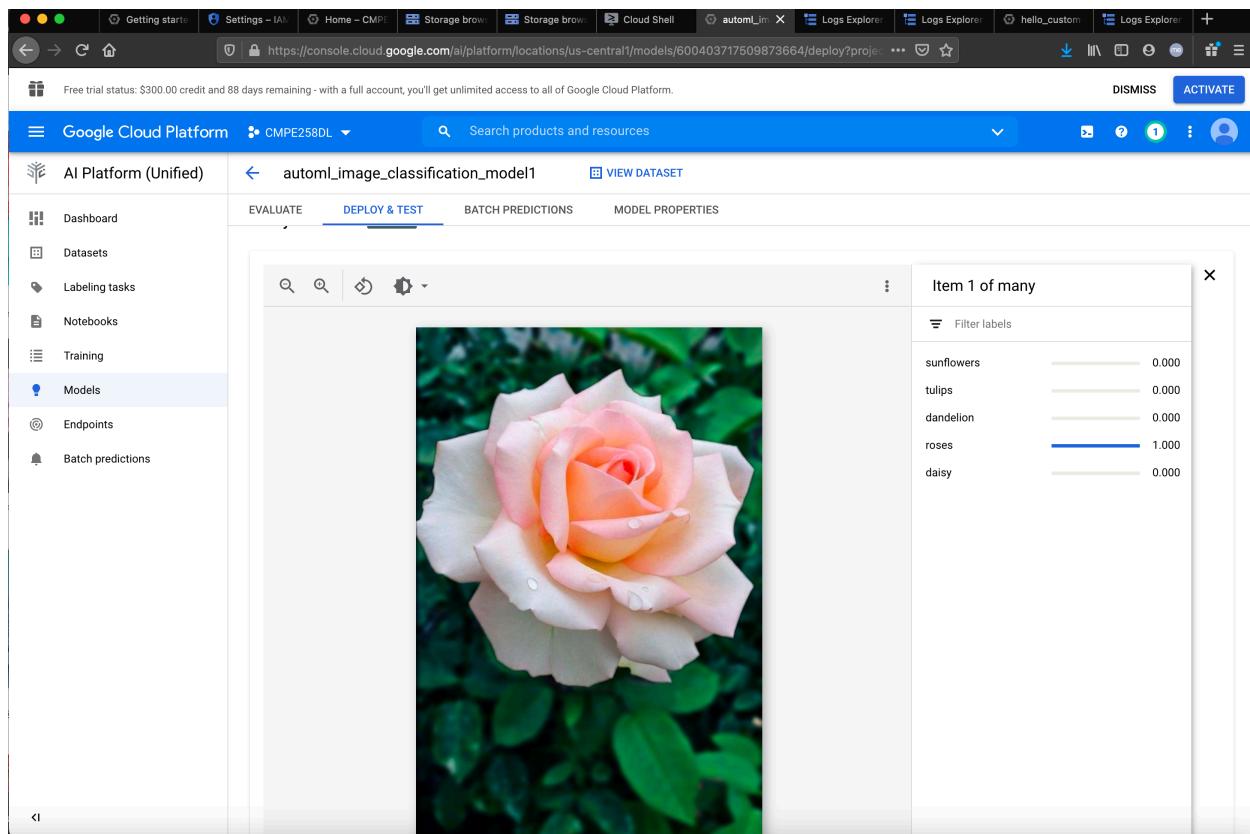
REFRESH

Models are built from your datasets or unmanaged data sources. There are many different types of machine learning models available on AI Platform, depending on your use case and level of experience with machine learning. [Learn more](#)

Region us-central1 (Iowa) ⚡

Filter models...

Name	ID	Data	Endpoints	Region	Type	Created	Notifications	Metadata
automl_video_classification_model1	4520787193135890432	automl_video_classification_vcn	0	us-central1	Video classification	Feb 20, 2021, 11:08:21 AM		
Structured_AutoML_Tutorial_2021220193125	9132473211563278356	Structured_AutoML_Tutorial	1	us-central1	Tabular	Feb 20, 2021, 11:34:19 AM		
hello_custom	2305016176469606400	—	1	us-central1	Custom trained	Feb 20, 2021, 12:24:06 PM		
automl_text_classification_model1	7743112726519480320	text_classification_tutorial_tcn	1	us-central1	Text classification	Feb 18, 2021, 3:36:25 PM		
automl_image_classification_model1	600403717509873664	automl_icn_dataset1_icn	1	us-central1	Image classification	Feb 18, 2021, 3:32:15 PM		



Deleting the End point for automl\_image\_classification

Endpoints – AI Platform (Unified) | Logs Explorer – Logging – CMII | Hello image data: Cleaning up | Train and deploy on-device im... | Firebase console

console.cloud.google.com/ai/platform/endpoints?authuser=1&project=cmpe258dl

Upgrade your account to avoid a break in service (\$89.79 credit and 84 days left in your trial).

LEARN MORE UPGRADE

Google Cloud Platform CMPE258DL

AI Platform (Unified) Endpoints REVIEW + CREATE ENDPOINT REFRESH

Dashboard Datasets Labeling tasks Notebooks Training Models Endpoints Batch predictions

Endpoints are machine learning models made available for online prediction requests. Endpoints are useful for timely predictions from many users (for example, in response to an application request). You can also request batch predictions if you don't need immediate results.

To create an endpoint, you need at least one machine learning model.

Region: us-central1 (Iowa)

Filter endpoints

Endpoint	ID	Models	Region	Last updated	API	Notification	Metadata
Structured_AutoML_Tutorial	779330323304199168	1	us-central1	Feb 20, 2021, 7:58:43 PM	Sample request	...	...
hello_custom	7868738527062654976	1	us-central1	Feb 20, 2021, 7:23:20 PM	Sample request	...	...
hello_automl_text	3257052508635267072	1	us-central1	Feb 20, 2021, 5:54:00 PM	Sample request	...	...
hello_automl_image	7562493752401461248	1	us-central1	Feb 20, 2021, 5:47:21 PM	Sample request	...	...

hello\_automl\_image – AI Platform (Unified) | Logs Explorer – Logging – CMII | Hello image data: Cleaning up | Train and deploy on-device im... | Firebase console

console.cloud.google.com/ai/platform/locations/us-central1/endpoints/7562493752401461248?authuser=1&project=cmpe258dl

Upgrade your account to avoid a break in service (\$89.79 credit and 84 days left in your trial).

LEARN MORE UPGRADE

Google Cloud Platform CMPE258DL

AI Platform (Unified) hello\_automl\_image EDIT SETTINGS SAMPLE REQUEST

Dashboard Datasets Labeling tasks Notebooks Training Models Endpoints Batch predictions

Region: us-central1

Logs View Logs

Model	Traffic split	Compute nodes	Type	Created
automl_image_classification_model1	100%	Auto (1 minimum, 1 maximum)	Image classification	Feb 20, 2021, 5:39:36 PM

DEPLOY ANOTHER MODEL

Chart interval: 1 hour 6 hours 12 hours 1 day 2 days 4 days 7 days 14 days 30 days

Predictions/second

automl\_image\_classification\_model1: 0.006/s

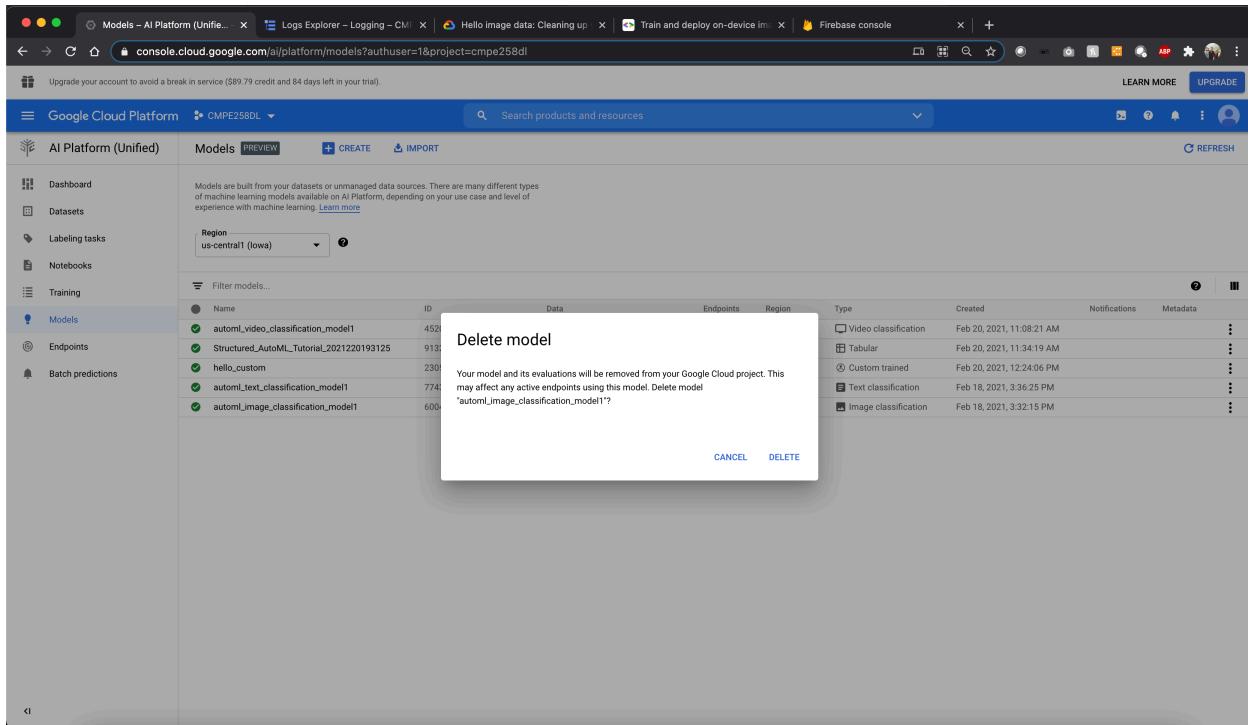
Prediction error percentage

No data is available for the selected time frame.

The screenshot shows the Google Cloud Platform AI Platform (Unified) interface. On the left, the sidebar includes options like Dashboard, Datasets, Labeling tasks, Notebooks, Training, Models, Endpoints (selected), and Batch predictions. The main area displays a model named "hello\_automl\_image". The "Logs" tab is selected, showing traffic split and compute nodes information. A modal dialog titled "Undeploy model from endpoint" is open, asking if the user wants to undeploy the "automl\_image\_classification\_model1" from the endpoint. The background shows two line charts: "Predictions/second" and "Prediction error percentage", both with no data available for the selected time frame.

The screenshot shows the Google Cloud Platform AI Platform (Unified) interface, specifically the "Endpoints" section. The sidebar shows the same navigation options as the previous screen. The main area lists several endpoints, including "hello\_automl\_image", "Structured\_AutoML\_Tutorial", "hello\_custom", and "hello\_automl\_text". A modal dialog titled "Remove endpoint" is open, asking if the user wants to remove the "hello\_automl\_image" endpoint. The background shows a table of endpoint logs.

Delete the model



## Delete the dataset

