

ラボ3

- Azure AI Services マルチサービスアカウントの作成
- ストレージアカウントの作成、 Blobコンテナーの作成
- cocoファイルの書き換え
- 画像ファイルとcocoファイルのアップロード
- Azure AI Vision Studioでのプロジェクトの作成
 - データセットの作成
 - カスタムモデルの作成
 - トレーニング
 - カスタムモデルの動作確認

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All services - Microsoft Azure

https://portal.azure.com/#allservices/category/AI%20%2B%20Machi...

Microsoft Azure Search resources, services, and docs (G+/)

User1-41685679@LODS...
LODS-PROD-MCA (LODSPRODM...)

All services | AI + Machine Learning

All

Favorites

Recents

Recommended for you

Categories

AI + machine learning

Analytics

Compute

Containers

Databases

DevOps

General

Hybrid + multicloud

Identity

Integration

Internet of Things

Management and governance

Migration

Filter services

Service providers : All

Release Status : All

Azure AI + Machine Learning platforms

Azure AI Studio PREVIEW

Azure Machine Learning

Azure AI services + APIs

AI Search

Azure AI services

Azure AI services multi-service account

Azure AI Video Indexer

Anomaly detectors

Bot Services

Computer vision

Content moderators

Custom vision

Document intelligences

Face APIs

Immersive readers

Language

Metrics advisors

Azure OpenAI

Personalizers

Speech services

Translators



Create Azure AI services - Micros X Custom Vision - Projects X | +

https://portal.azure.com/#create/Microsoft.CognitiveServicesAllInOne

User1-41685679@LODS...
LODS-PROD-MCA (LODSPROM...)

All services > Azure AI services | Azure AI services multi-service account >

Create Azure AI services ...

Basics Network Identity Tags Review + create

View automation template

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

Basics

Subscription	MOC Subscription-lod49334081
Resource group	ResourceGroup1
Region	West Europe
Name	multi0923872
Pricing tier	Standard S0

Network

Previous Next Create

Give feedback

Vision: Custom vision model

41 Minutes Remaining

Instructions Resources Help 100%

subscription.

2. In the top search bar, search for **Azure AI services**, select **Azure AI Services**, and create an Azure AI services multi-service account resource with the following settings:

- **Subscription:** Your Azure subscription
- **Resource group:** Choose or create a resource group (if you are using a restricted subscription, you may not have permission to create a new resource group - use the one provided)
- **Region:** Choose from East US, West Europe, West US 2*
- **Name:** Enter a unique name
- **Pricing tier:** Standard S0

*Azure AI Vision 4.0 custom model tags are currently only available in these regions.

3. Select the required checkboxes and create the resource.

We also need a storage account to store the training images.

1. In Azure portal, search for and select **Storage accounts**, and create a new storage account with the following settings:

- **Subscription:** Your Azure subscription
- **Resource Group:** Choose the same resource group as the AI service

0% Tasks Complete

End >

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Home > Storage accounts >

Create a storage account

Project details

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription *

MOC Subscription-1d49334081



Resource group *

ResourceGroup1

[Create new](#)

Instance details

Storage account name * ⓘ

st20938428325

Region * ⓘ

(Europe) West Europe

[Deploy to an Azure Extended Zone](#)

Performance * ⓘ

Standard: Recommended for most scenarios (general-purpose v2 account)

Premium: Recommended for scenarios that require low latency.

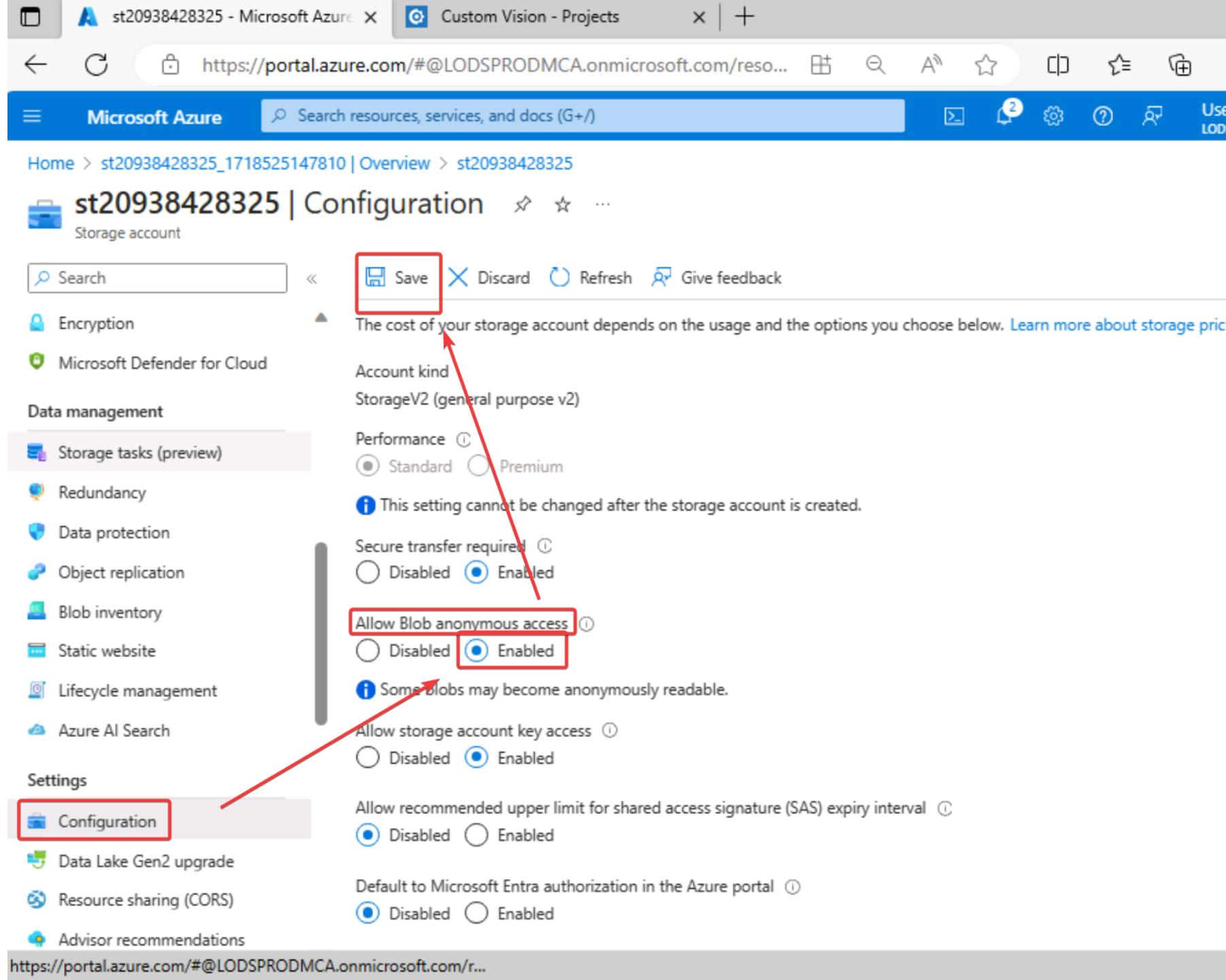
Redundancy * ⓘ

Locally-redundant storage (LRS)

Previous

Next

Review + create



Home > st20938428325

st20938428325 | Containers

Storage account

[Container](#)[Change access level](#)[Restore containers](#)

Search containers by prefix

Name

Last modified

 \$logs

6/16/2024, 1:07

[Overview](#)[Activity log](#)[Tags](#)[Diagnose and solve problems](#)[Access Control \(IAM\)](#)[Data migration](#)[Events](#)[Storage browser](#)[Storage Mover](#)[Data storage](#)[Containers](#)[File shares](#)[Queues](#)[Tables](#)[Security + networking](#)[Networking](#)[Event Grid - LCRN](#)

New container

Name *

fruit



Anonymous access level

Container (anonymous read access for containers and blobs)

 All container and blob data can be read by anonymous request. Clients can enumerate blobs within the container by anonymous request, but cannot enumerate containers within the storage account.

[Advanced](#)[Create](#)[Give feedback](#)

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The screenshot shows the Microsoft Visual Studio Code (VS Code) interface. The top bar includes icons for File, Edit, Selection, View, and a search bar containing "mslearn-ai-vision". The left sidebar has icons for Explorer, Search, Problems (with 2 notifications), and Terminal (with 4 notifications). The Explorer view shows a project structure under "MSLEARN-AI-VISION" with subfolders like "Labfiles", "01-analyze-images", "02-image-classification", and "03-object-detection". A file named "replace.ps1" is selected in the "02-image-classification" folder. The main editor area displays the following PowerShell script:

```
$storageAcct = 'st20938428325'  
Get-Content training-images/training_labels.json -replace '<storageAcct>'
```

The terminal at the bottom shows the command being run and its output:

```
PS C:\Users\Student\Documents\mslearn-ai-vision\Labfiles\02-image-classification> .\replace.ps1  
PS C:\Users\Student\Documents\mslearn-ai-vision\Labfiles\02-image-classification>
```

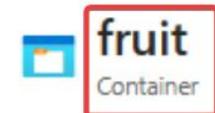
The screenshot shows the Microsoft Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, ...
- Search Bar:** mslearn-ai-vision
- Icons:** Close, Minimize, Maximize, Fullscreen, Help.
- Left Sidebar (EXPLORER):** Shows a folder structure under MSLEARN-AI-VISION containing numerous image files named `IMG_20200229_165[0-9]{3}.jpg`.
- Central Area:** A PowerShell terminal window titled `> replace.ps1 M` is active, showing the command `.\replace.ps1` running. Below it, the output shows the command being run again.
 - Output:** PS C:\Users\Student\Documents\mslearn-ai-vision\Labfiles\02-image-classification
 - Terminal:** PS C:\Users\Student\Documents\mslearn-ai-vision\Labfiles\02-image-classification
 - Others:** PS C:\Users\Student\Documents\mslearn-ai-vision\Labfiles\02-image-classification
- Code Editor:** A JSON file titled `{ training_labels.json M` is open, showing the following content:

```
1 {  
2   "images": [  
3     {  
4       "id": 1,  
5       "width": 1024,  
6       "height": 768,  
7       "file_name": "IMG_20200229_164823.jpg",  
8       "coco_url": "AmlDatastore://fruit/IMG_20200229_164823.jpg",  
9       "absolute_url": "https://st20938428325.blob.core.windows.net/fruit/  
10      "date_captured": "2023-12-07T22:52:56.1086527Z"  
11    },  
12    {
```
- Bottom Navigation:** PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL (underlined), PORTS, AZURE.
- Bottom Status:** + ...

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...

Search



Upload

Change access level

Refresh

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Shared access

Access policy

Properties

Metadata

training-images

+ New



Sort

View

...



02-i... > training-ima...



Search training-images

mslearn-ai-vision

Instructions

Labfiles

01-analyze-images

02-image-classification

test-images

training-images

03-object-detection

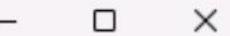
46 items

Upload blob

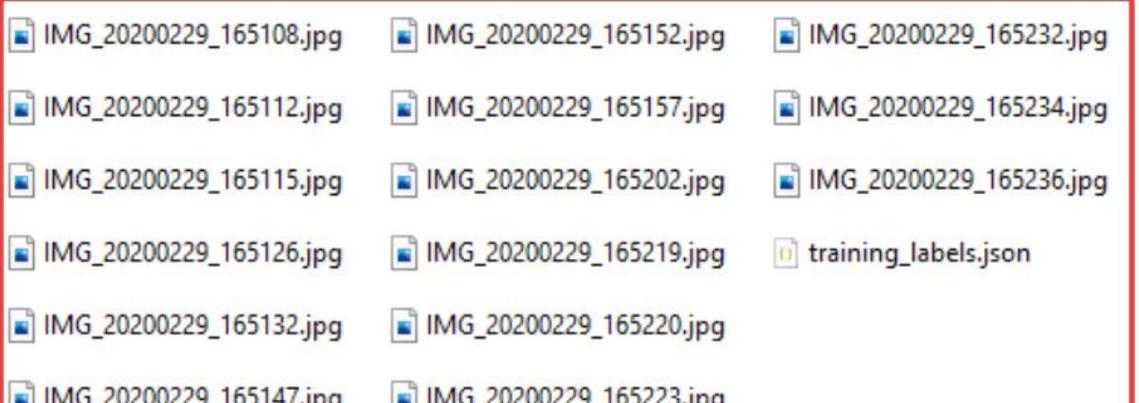


Drag and drop files here

or
Browse for files



Give feedback



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Azure AI | Vision Studio

 ? Sign in

Vision Studio



Get started with Azure AI Vision

Give your apps the ability to read text, analyze images, and detect character recognition (OCR) and machine learning.



**Sign in with Azure to get full access to
Vision Studio**

You can explore and try out Vision services without signing in. To get full access to Vision Studio, please sign in with your Azure account. [Learn more about Azure account](#)

Don't have Azure account? [Create one here or learn how to create Azure account.](#)

[Sign up and get free \\$200 Azure Credit](#)

Vision Studio

View all resources

Coming soon: Video analytics features from Azure AI Vision, using models like GPT-4 Turbo and Phi-3-V. Sign up for more information at aka.ms/video-analytics

Featured

Optical character recognition

Spatial analysis

Face

Image analysis



Recognize products on shelves
Preview

Identify products on shelves, gaps in product availability, and compliance for planograms.

Try it out



Customize models with images
Preview

Create custom image classification and object detection models with images using Vision Studio and Azure ML.

Start a project



Search photos with image retrieval

Retrieve specific moments within your photo album. For example, you can search for: a wedding you attended last summer, your pet, or your favorite city.

Try it out

Vision Studio > My resources

Select a resource to work with

X

[Learn more about creating an Azure resource](#)

Current resource: multi0923872 (West Europe, S0)

Current subscription: MOC Subscription-lod49334081

All resources

Search

+ Create a new resource

⟳ Refresh

Resource name ↑	Azure subscription	Region	Pricing tier	Type
multi	☆ MOC Subscription-lod49334081	East US	S0	CognitiveService
multi0923872	☆ MOC Subscription-lod49334081	West Europe	S0	CognitiveService

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« Vision Studio > My resources > multi0923872 > Datasets

Datasets in this resource

 Add new dataset

 Refresh

 Delete

 Learn more about customizing models



Create a new dataset to get started. You will be able to leverage images and labels stored in your own Azure Blob to create new datasets, as well as label images using Azure ML if needed. Once you have a Dataset, you can use it to train new Computer Vision models customized to your own needs.

Create a new dataset

X

Dataset name *

training_images

Select the model type you want to train or evaluate using this dataset *

Image classification



Select Azure blob storage container *

fruit - st20938428325 [Select Container](#)

Allow Vision Studio to read and write to your blob storage

Create dataset

Cancel

Labels stored in your own Azure Blob to create new datasets, as well as

Vision Studio

multi0923872

Datasets

Custom models

training_images

Refresh Delete

Last modified on	6/16/2024, 1:23:33 AM
Dataset type	Image classification
Blob storage container	fruit

1. Label data

Create an Azure ML Data Labeling project to label your data and easily import it back to Vision Studio in the form of a COCO file. If you already have a COCO file with your labeled data, import it directly below.

[Create Azure ML Data Labeling Project](#)

2. Import COCO file for labeled data

COCO files are the required format for labeled data to train a custom model in Vision Studio. Import a COCO file from your Azure ML Data Labeling project, or from your blob storage container.

Add COCO file Delete

Import COCO file

X

Azure directory

LODSPRODMCA.onmicrosoft.com

Import method *

Import COCO file from a Blob Container

COCO file *

training_labels.json

Overwrite existing coco files

Import and add COCO file

Cancel

Vision Studio

multi0923872

Datasets

Custom models

training_images

Refresh Delete

Last modified on	6/16/2024, 1:24:31 AM
Dataset type	Image classification
Blob storage container	fruit

1. Label data

Create an Azure ML Data Labeling project to label your data and easily import it back to Vision Studio in the form of a COCO file. If you already have a COCO file with your labeled data, import it directly below.

Create Azure ML Data Labeling Project

2. Import COCO file for labeled data

COCO files are the required format for labeled data to train a custom model in Vision Studio. Import a COCO file from your Azure ML Data Labeling project, or from your blob storage container.

Add COCO file Delete

Name ↓

training_labels.json

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Vision Studio > My resources > multi0923872 > Custom models

Vision Studio

multi0923872

Datasets

Custom models

Custom models that are a part of this resource

Train a new model

Refresh

Delete

Learn more about customizing models



Create a new model to get started. You will simply need to select one of your Datasets and configure the model settings based on your own needs.

Train a new model

X

Name and scenario

Choose training datasets

Choose evaluation datasets (Optional)

Training budget

Review and finish

Select a name and a target scenario for your model

Customize the name of this model *

classifyfruit

Select the model type *

Image classification

Next

Train model

Cancel

Train a new model

X

- Name and scenario
- Choose training datasets
- Choose evaluation datasets (Optional)
- Training budget
- Review and finish

Choose your dataset

Show supported types only On

Select the dataset matching your model type that you would like to train with.*

Name	Type
<input checked="" type="checkbox"/> training_images	Image classification

Back

Next

Train model

Cancel

Train a new model



- Name and scenario
- Choose training datasets
- Choose evaluation datasets (Optional)
- Training budget
- Review and finish

ⓘ You've chosen training_images as your training dataset.



Choose evaluation datasets (optional)

Show supported types only On

Select one or more datasets that you would like to use to evaluate the trained model.
(Optional) *

Name	Type
training_images	Image classification

Back

Next

Train model

Cancel

- Name and scenario
- Choose training datasets
- Choose evaluation datasets (Optional)
- Training budget
- Review and finish

Select your training budget

Specify a compute time budget for training and Vision Studio will experimentally identify the best training and augmentation settings.

In most cases, the more time you select the better the model will be. You're charged based on the compute time used to train your model, so choose your budget based on your need.

[Check here for minimum budget requirement.](#)

Training budget: 1 hours



Back

Next

Train model

Cancel

Train a new model

X

- Name and scenario
- Choose training datasets
- Choose evaluation datasets (Optional)
- Training budget
- Review and finish

Your new model is ready to be trained

Model name: classifyfruit

Model type: Image classification

Training dataset(s): training_images

Evaluation dataset(s): None

Back

Train model

Cancel

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Vision Studio > My resources > multi0923872 > Custom models

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multi0923872

Datasets

Custom models

Custom models that are a part of this resource

Train a new model Refresh Delete Learn more about customizing models

Name ↑	Last updated	Model type	Status
classifyfruit	this hour	Generic-Classifier	Queued

« Vision Studio > My resources > multi0923872 > Custom models

Vision Studio

multi0923872

Datasets

Custom models

Custom models that are a part of this resource

+ Train a new model

⟳ Refresh

Delete

Learn more about customizing models

Name ↑	Last updated	Model type	Status
classifyfruit	this hour	Generic-Classifier	Training

Vision studio - Se X Vision Studio + - 4f6548dfa23... A Custom models t of this resource Learn more about customizing models

last updated	Model type	Status
5 hour	Generic-Classifier	Training

Instructions Resources Help 10 Minutes Remaining 100%

3. Since you have already connected your container named `T` fruit , Vision Studio searches that for a COCO file. Select **training_labels.json** from the dropdown, and add the COCO file.

4. Navigate to **Custom models** on the left, and select **Train a new model**. Use the following settings:

- **Name of model:** classifyfruit
- **Model type:** Image classification
- **Choose training dataset:** training_images
- Leave the rest as default, and select **Train model**

Training can take some time - default budget is up to an hour, however for this small dataset it is usually much quicker than that. Select the **Refresh** button every couple minutes until the status of the job is *Succeeded*. Select the model.

Here you can view the performance of the training job. Review the precision and accuracy of the trained model.

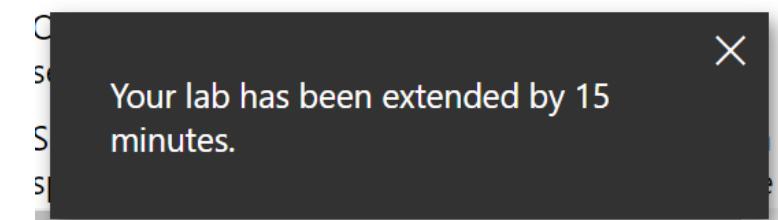
Test your custom model

Your model You now have less than 10 minutes left in your lab. Would you like to extend your lab by 15 minutes?

1. Connect to your storage account
2. Set up your environment

Yes No

0% Tasks Complete End >



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Vision Studio > My resources > multi0923872 > Custom models

 Vision Studio

multi0923872

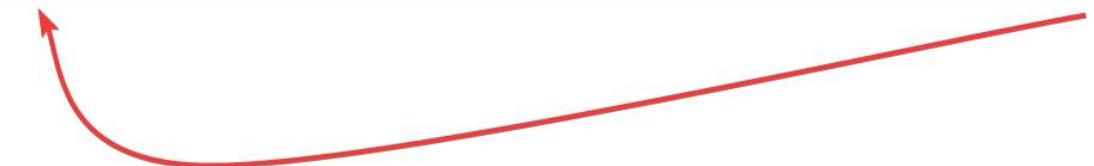
Datasets

Custom models

Custom models that are a part of this resource

 Train a new model Refresh Delete Learn more about customizing models

Name ↑	Last updated	Model type	Status
classifyfruit	this hour	Generic-Classifier	Succeeded



Vision Studio

multi0923872

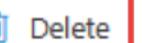
Datasets

Custom models

classifyfruit



Cancel



Try it Out

Target scenario

Image classification

Finished training on

6/16/2024, 2:02:56 AM

Total training time

24 minute(s)

Dataset(s) used to train the model

[training_images](#)

Status

Succeeded

Model task kind

Generic-Classifier

Evaluation runs

Add new evaluation run

Delete evaluation run

Choose evaluation run

default

Finished evalution on

6/16/2024, 2:01:19 AM

Total evaluation time

0 hours, 0 minutes, 0 seconds

Status

succeeded

Overall performance



Vision Studio > Extract common tags from images

Extract common tags from images



Extract tags based on thousands of recognizable objects, living beings, scenery, and actions.

Platforms

Cloud

View documentation

View SDK reference

Use the REST API

View samples on Github

Try it out



I acknowledge that this demo will incur usage to resource multi0923872 in my Azure account. [Choose a different resource.](#)

When running prediction with custom models, you might experience longer than expected latency to receive prediction results. It is not currently recommended to use custom models for business critical environments. Microsoft is working on making latency improvements in the near future.

Use one of your own files or choose from a sample below.

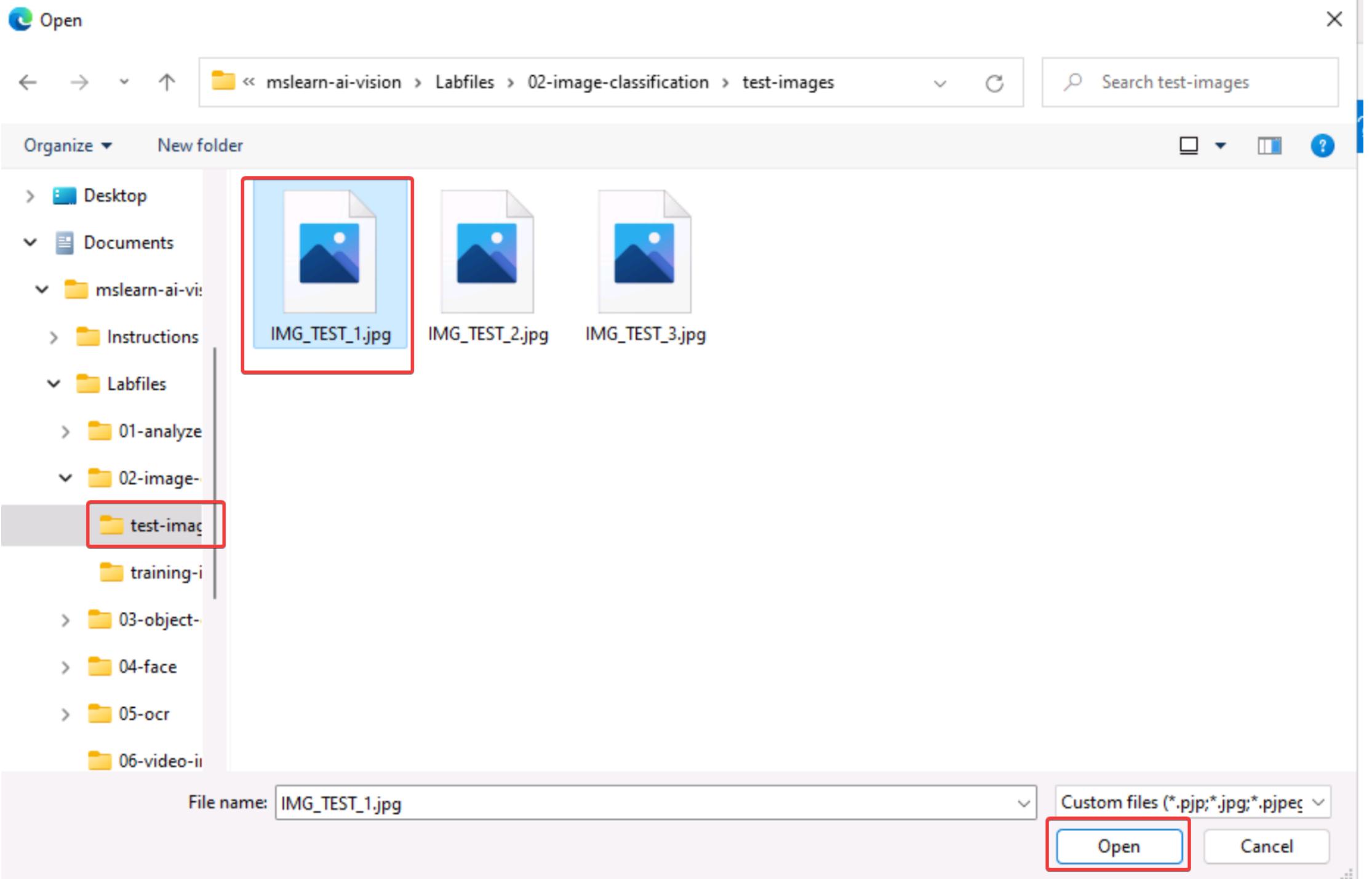
Choose the model you want to try out

classifyfruit

[Train your own custom model](#)

Drag and drop a file here
or

[Browse for a file](#)
or
[Take a photo](#)



https://www.example.com



Detected attributes

JSON

apple (99.97%)

orange (0.02%)

banana (0.02%)