

**VISION AI** (#)



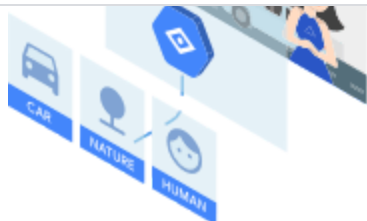
Derive insights from your images in the cloud or at the edge with AutoML Vision or use pre-trained Vision API models to detect emotion, understand text, and more.

[Get started \(https://cloud.google.com/vision/overview/docs/get-started/\)](https://cloud.google.com/vision/overview/docs/get-started/)



AES, a Fortune 500 global power company, is using drones and AutoML Vision to accelerate a safer, greener energy future.

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## Industry-leading accuracy for image understanding

Google Cloud offers two computer vision products that use machine learning to help you understand your images with industry-leading prediction accuracy.

### AutoML Vision

Automate the training of your own custom machine learning models. Simply upload images and train custom image models with [AutoML Vision](https://cloud.google.com/automl/) (<https://cloud.google.com/automl/>)'s easy-to-use graphical interface; optimize your models for accuracy, latency, and size; and export them to your application in the cloud, or to an array of devices at the edge.

### Vision API

Google Cloud's Vision API offers powerful pre-trained machine learning models through REST and RPC APIs. Assign labels to images and quickly classify them into millions of predefined categories. Detect objects and faces, read printed and handwritten text, and build valuable metadata into your image catalog.

## Try the API

Upload your image

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## Benefits



### Detect objects automatically

Detect and classify multiple objects including the location of each object within the image. Learn more about object detection with [Vision API](https://cloud.google.com/vision/docs/object-localizer/)

(<https://cloud.google.com/vision/docs/object-localizer/>) and [AutoML Vision](https://cloud.google.com/vision/automl/object-detection/docs/)

(<https://cloud.google.com/vision/automl/object-detection/docs/>).



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Use AutoML Vision Edge to build and deploy fast, high-accuracy models to classify images or detect objects at the edge, and trigger real-time actions based on local data. AutoML Vision Edge supports a variety of edge devices where resources are constrained and latency is critical. [Learn more](https://cloud.google.com/vision/automl/docs/) (<https://cloud.google.com/vision/automl/docs/>).



## Reduce purchase friction

With Vision API's [vision product search](https://cloud.google.com/vision/product-search/docs/) (<https://cloud.google.com/vision/product-search/docs/>), retailers can create an engaging mobile experience that enables your customers to upload a photo of an item and immediately see a list of similar items for purchase from you.



## Understand text and act on it

Vision API uses OCR to [detect text](https://cloud.google.com/vision/docs/detecting-fulltext/) (<https://cloud.google.com/vision/docs/detecting-fulltext/>) within images in more than 50 languages (<https://cloud.google.com/vision/docs/languages/>) and various [file types](https://cloud.google.com/vision/docs/supported-files/) (<https://cloud.google.com/vision/docs/supported-files/>). It's also part of [Document](#)

[Understanding AI \(https://cloud.google.com/solutions/document-understanding/\)](https://cloud.google.com/solutions/document-understanding/), which lets you process millions of documents quickly and automate business workflows.

A blue circular icon with a white square inside is partially visible on the left. Below it is a white rectangular dropdown menu with a thin grey border. Inside the menu, the text "VISION AI (#)" is displayed in a dark blue font. On the right side of the menu, there is a small blue downward-pointing chevron icon.

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## Detect explicit content

Vision API can review your images using [Safe Search](https://cloud.google.com/vision/docs/detecting-safe-search/) (<https://cloud.google.com/vision/docs/detecting-safe-search/>), and estimate the likelihood that any given image includes adult content, violence, and more.



## Use our data labeling service

If you have images for AutoML Vision that aren't yet labeled, Google has a team of people that can help you annotate images, videos, and text to get high-quality training data. [Learn more \(https://cloud.google.com/vision/automl/docs/human-labeling/\)](https://cloud.google.com/vision/automl/docs/human-labeling/).

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# Which vision product is right for you?

You can work with either one, or reap the benefits of both products by using Vision API to quickly categorize content using thousands of predefined labels, and using AutoML Vision to create additional custom labels to suit your specific needs.

<b>VISION AI (#)</b>		
	AUTOML VISION	VISION API
<b>USER INTERFACE</b>		
<b>Use APIs</b> Use REST and RPC APIs.	✓	✓
<b>Use a graphical UI</b> Use a graphical user interface.	✓	
<b>PREDEFINED OR CUSTOM LABELING</b>		
<b>Classify images using predefined labels</b> Pre-trained models leverage vast libraries of predefined labels.		✓
<b>Classify images using custom labels</b> Train models to classify images via labels you choose.	✓	
<b>Use Google’s data labeling service</b> Our team can help annotate your images, videos, and text.	✓	✓
<b>DEPLOY AT THE EDGE</b>		
<b>Deploy machine learning models at the edge</b> Deploy low-latency, high accuracy models optimized for edge devices.	✓	Integrate v <a href="https://firebase.google.com/docs/ml-kit">https://firebase.google.com/docs/ml-kit</a>
<b>ADDITIONAL FEATURES</b>		



	AutoML Vision	Vision AI
<b>Detect objects</b> Detect objects, where they are, and how many.	✓	✓
<b><u>VISION AI</u> (#)</b>		▼
Compare photos to images in your product catalog, and return a ranked list of similar items.		✓
<b>Detect printed and handwritten text</b> Use <a href="#">OCR</a> ( <a href="https://cloud.google.com/vision/docs/ocr/">https://cloud.google.com/vision/docs/ocr/</a> ) and automatically identify language.		✓
<b>Detect faces</b> <a href="#">Detect faces</a> ( <a href="https://cloud.google.com/vision/docs/detecting-faces/">https://cloud.google.com/vision/docs/detecting-faces/</a> ) and facial attributes. (Face recognition not supported.)		✓
<b>Identify popular places and product logos</b> Automatically identify well-known <a href="#">landmarks</a> ( <a href="https://cloud.google.com/vision/docs/detecting-landmarks/">https://cloud.google.com/vision/docs/detecting-landmarks/</a> ) and product <a href="#">logos</a> ( <a href="https://cloud.google.com/vision/docs/detecting-logos/">https://cloud.google.com/vision/docs/detecting-logos/</a> )		✓

	AutoML Vision	Visio
<b>Assign general image attributes</b> Detect <a href="#">general attributes</a>		
<b><u>VISION AI</u></b> (#) <span style="float: right;">▼</span>		
and appropriate <a href="#">crop hints</a> ( <a href="https://cloud.google.com/vision/docs/detecting-crop-hints/">https://cloud.google.com/vision/docs/detecting-crop-hints/</a> ) .		
<b>Detect web entities and pages</b> Find news events, logos, and <a href="#">similar images on the web</a> ( <a href="https://cloud.google.com/vision/docs/detecting-web/">https://cloud.google.com/vision/docs/detecting-web/</a> ) .		✓
<b>Moderate content</b> <b>Detect explicit content</b> ( <a href="https://cloud.google.com/vision/docs/detecting-safe-search/">https://cloud.google.com/vision/docs/detecting-safe-search/</a> ) (adult, violent, etc.) within images.		✓
<b>Celebrity recognition</b> Identify celebrity faces in images (limited access, <a href="#">see documentation</a> ) ( <a href="https://cloud.google.com/vision/docs/celebrity-recognition">https://cloud.google.com/vision/docs/celebrity-recognition</a> ) .)		✓





# Vision API customers

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 <h3>The New York Times</h3> <p>Learn how The New York Times uses Google Cloud and Vision API to find untold stories in millions of archived photos.</p> <p><b>Read blog</b> → <a href="https://cloud.google.com/blog/machine-learning/how-the-new-york-times-is-using-google-cloud-to-find-untold-stories-in-millions-of-archived-photos/">(https://cloud.google.com/blog/machine-learning/how-the-new-york-times-is-using-google-cloud-to-find-untold-stories-in-millions-of-archived-photos/)</a></p>	 <h3>Box</h3> <p>See how Box brings image recognition and OCR to cloud content management with Vision API.</p> <p><b>Read blog</b> → <a href="https://www.blog.google/products/cloud/box-bringing-image-recognition-and-ocr-cloud-content-management/">(//www.blog.google/products/cloud/box-bringing-image-recognition-and-ocr-cloud-content-management/)</a></p>
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# AutoML Vision customers

 <h3>Chevron</h3>	 <h3>Texas A&amp;M University</h3> <p>Discover how Texas A&amp;M University</p>
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Learn how Chevron uses AutoML Vision to find information that is challenging to get when you need it.

researchers are using AutoML Vision to assess and track environmental change.

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video  v=4gQ2NqNazgs&feature=youtu

environmental-change/)



### Zoological Society of London

Learn how ZSL is using AutoML to identify animals in vast camera trap datasets to help save endangered species.

Read case study → (<https://cloud.google.com/customers/case-studies/zsl>)

Watch video  ([//www.youtube.com/watch?v=QNF90GySQYM](https://www.youtube.com/watch?v=QNF90GySQYM)&autoplay



### GlobalFoundries

“Google Cloud AutoML Vision made it easy for our subject matter experts to quickly learn how to navigate and then train the AI. In our factory leading the initiative, 40% of the manual inspection workload has already been successfully shifted to the visual inspection solution we built based on AutoML Vision.”

Read blog → (<https://cloud.google.com/blog/topics/machine-learning/ai-and-machine-learning-improve-manufacturing-visual-inspection-process>)

# Highlights from Google Cloud Next '19

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(https://www.youtube.com/watch?v=X813AkGuPDE?start=505)

**AES is using drones and AutoML Vision to make inspecting energy assets safer and more efficient**

Watch (https://www.youtube.com/watch?v=X813AkGuPDE?start=505)



(https://www.youtube.com/watch?v=X813AkGuPDE?start=1214)

**LG CNS is using AutoML Vision Edge to accurately detect defects in various products on the assembly line**

Watch (https://www.youtube.com/watch?v=X813AkGuPDE?start=1214)



(https://www.youtube.com/watch?v=pKEMQ1VMxsM?start=440)

**Nordstrom is using Vision Product Search to enable shoppers to easily find**



(https://www.youtube.com/watch?v=lda6DsCiHVY?start=218)

**Unilever is using Vision API to gain new insights on consumer**

products simply by taking a photo

Watch video [v=pKEmQ1VMxsM?start=440](https://www.youtube.com/watch?v=pKEmQ1VMxsM?start=440)

behavior and improve ad campaign effectiveness

Watch video [v=Ida6DsCiHvY?start=218](https://www.youtube.com/watch?v=Ida6DsCiHvY?start=218)

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[v=Rj4Nw](https://www.youtube.com/watch?v=Rj4Nw)

[gk08Mc](https://www.youtube.com/watch?v=Rj4Nw)

IDEXX is using AutoML Vision to automatically organize medical imagery and improve the productivity of their radiologists

Watch video [v=Rj4Nw](https://www.youtube.com/watch?v=Rj4Nw)  
[gk08Mc?start=248](https://www.youtube.com/watch?v=Rj4Nw)

# Use cases

INDUSTRIAL INSPECTION

VISION PRODUCT SEARCH

DOCUMENT CLASSIFICATION

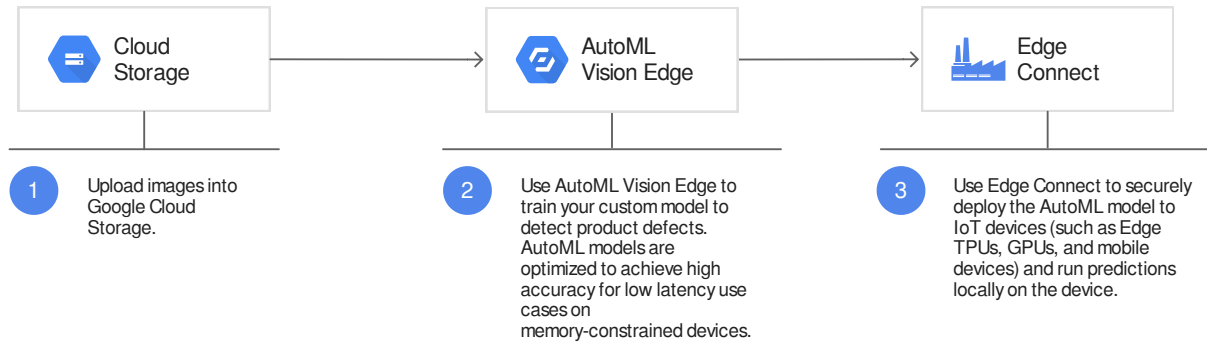
IMAGE

## Industrial inspection

Use AutoML Vision Edge to automate the quality control process in manufacturing by

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[Sign up](https://cloud.google.com/vision/ai/sign-up) (<https://services.google.com/fh/forms/industriainspaction/>) to learn more about our industrial inspection solution.



## Pricing

Vision AI products	Pricing guide
Vision API	<a href="https://cloud.google.com/vision/pricing">Documentation (https://cloud.google.com/vision/pricing)</a>

Vision AI products	Pricing guide
Vision product search	<a href="https://cloud.google.com/vision/product-search/pricing">Documentation</a> ( <a href="https://cloud.google.com/vision/product-search/pricing">https://cloud.google.com/vision/product-search/pricing</a> )
<b><u>VISION AI</u></b> (#) <span style="float: right;">▼</span>	
	( <a href="https://cloud.google.com/vision/automl/pricing">https://cloud.google.com/vision/automl/pricing</a> )
AutoML Vision Edge	<a href="https://cloud.google.com/vision/automl/pricing#automl-vision-edge">Documentation</a> ( <a href="https://cloud.google.com/vision/automl/pricing#automl-vision-edge">https://cloud.google.com/vision/automl/pricing#automl-vision-edge</a> )

## Resources



**Forrester New Wave™:  
Computer Vision (CV)  
Platforms, Q4 2019**

Read the report → (<https://cloud.google.com/forrester-new-wave/computer-vision/>)



**AutoML Vision Documentation  
- for models in the cloud and  
on edge devices**

View documentation → (<https://cloud.google.com/vision/automl/docs>)




**AI Adventures: AutoML Vision,**



**AI Adventures: AutoML Vision,**

Part 1

Part 2

Watch  (<https://www.youtube.com/watch?v=kyfdTb0Lz08&feature=youtu>)

Watch  (<https://www.youtube.com/watch?v=Uf1EaME1a8&feature=youtu>)

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**Vision API Documentation**

View documentation → (<https://cloud.google.com/vision/docs/>)



**Vision Product Search Documentation**

View documentation → (<https://cloud.google.com/search/docs/>)



**Google Cloud Solutions for Energy**

Explore solutions → (<https://cloud.google.com/solutions/energy/>)



**Machine Learning APIs by Example**

Watch demo  (<https://www.youtube.com/watch?v=ETeeSYMGZn0&feature=youtu>)



**Google Cloud Podcast #109: Cloud AutoML Vision**



**Google Cloud Solutions for Retail**

Listen to podcast [\(//www.gcppodcast.com/podcast/109-cloud-automl-vision-with-unruh-and-sara-robinson/\)](https://www.gcppodcast.com/podcast/109-cloud-automl-vision-with-unruh-and-sara-robinson/)

Explore solutions [→ \(https://cloud.google.com/solutions\)](https://cloud.google.com/solutions)

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## Take courses and hands-on labs



**Detect Labels, Faces, and Landmarks in Images with the Cloud Vision API**

Begin Codelab [↗ \(//codelabs.developers.google.com/codelabs/vision-intro/index.html?index=..%2F..cloudai#0\)](https://codelabs.developers.google.com/codelabs/vision-intro/index.html?index=..%2F..cloudai#0)



**Cloud Vision API from a Kubernetes Cluster**

Begin setup [↗ \(//codelabs.developers.google.com/codelabs/cloud-vision-api-from-a-kubernetes-cluster/index.html?index=..%2F..cloudai#0\)](https://codelabs.developers.google.com/codelabs/cloud-vision-api-from-a-kubernetes-cluster/index.html?index=..%2F..cloudai#0)



**Classify Images and Clouds in the Cloud with AutoML Vision**



**Scan User-generated Content using Cloud Vision and Video Intelligence APIs**

[↗ \(//codelabs.developers.google.com/codelabs/cloud-vision-api-from-a-kubernetes-cluster/index.html?index=..%2F..cloudai#0\)](https://codelabs.developers.google.com/codelabs/cloud-vision-api-from-a-kubernetes-cluster/index.html?index=..%2F..cloudai#0)



**Begin Qwiklab** ↗ [https://www.qwiklabs.com/catalog\\_rank=%7B%22rank%22%3A%7B%7C%22name%22%3A%22Introduction+to+the+Cloud+Vision+API%22%7D%7D&utm\\_source=vision&utm\\_medium=content&utm\\_campaign=vision-ai](https://www.qwiklabs.com/catalog_rank=%7B%22rank%22%3A%7B%7C%22name%22%3A%22Introduction+to+the+Cloud+Vision+API%22%7D%7D&utm_source=vision&utm_medium=content&utm_campaign=vision-ai)

**Begin Codelab** ↗ <https://codelabs.developers.google.com/codelabs/usercontent-mlapis/index.html#0>


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**Using the Cloud Vision API with Ruby**

**Begin Codelab** ↗ <https://codelabs.developers.google.com/codelabs/vision-api-ruby/index.html#0>


**More Google Cloud AI Courses and Hands-on Labs**

**Review labs** ↗ <https://codelabs.developers.google.com/codelabs/categories/Machine+Learning>



**Machine Learning APIs**

**Begin Quest** ↗ [https://www.qwiklabs.com/quests/catalog\\_rank=%7B%22rank%22%3A%7B%7C%22name%22%3A%22Machine+Learning+APIs%22%7D%7D](https://www.qwiklabs.com/quests/catalog_rank=%7B%22rank%22%3A%7B%7C%22name%22%3A%22Machine+Learning+APIs%22%7D%7D)



**APIs Explorer: Qwik Start**

**Begin Qwiklab** ↗ [https://www.qwiklabs.com/catalog\\_rank=%7B%22rank%22%3A%7B%7C%22name%22%3A%22APIs+Explorer%3A+Qwik+Start%22%7D%7D&utm\\_source=vision&utm\\_medium=content&utm\\_campaign=vision-ai](https://www.qwiklabs.com/catalog_rank=%7B%22rank%22%3A%7B%7C%22name%22%3A%22APIs+Explorer%3A+Qwik+Start%22%7D%7D&utm_source=vision&utm_medium=content&utm_campaign=vision-ai)



**Extract, analyze, and translate text from images with the Cloud ML APIs**

**Begin** ↗ [https://www.qwiklabs.com/catalog\\_rank=%7B%22rank%22%3A%7B%7C%22name%22%3A%22Extract%2C%20analyze%2C%20and%20translate%20text%20from%20images%20with%20the%20Cloud%20ML%20APIs%22%7D%7D](https://www.qwiklabs.com/catalog_rank=%7B%22rank%22%3A%7B%7C%22name%22%3A%22Extract%2C%20analyze%2C%20and%20translate%20text%20from%20images%20with%20the%20Cloud%20ML%20APIs%22%7D%7D)

Qwiklab utm\_source=vision&utm\_med

VISION AI (#)



# Get started

## Integrate computer vision into your applications

Get started now with AutoML Vision, AutoML Vision Edge, Vision API, or Vision Product Search.

[Get started \(https://cloud.google.com/vision/overview/docs/get-started\)](https://cloud.google.com/vision/overview/docs/get-started)

Products or features listed on this page are in beta. For more information on our product launch stages, see [here \(https://cloud.google.com/products/#product-launch-stages\)](https://cloud.google.com/products/#product-launch-stages).

Cloud AI products comply with the SLA policies listed [here \(https://cloud.google.com/terms/sla/\)](https://cloud.google.com/terms/sla/). They may offer different latency or availability guarantees from other Google Cloud services.