

[AI & Machine Learning Products](https://cloud.google.com/products/machine-learning/) (<https://cloud.google.com/products/machine-learning/>)

[Cloud Vision API](https://cloud.google.com/vision/) (<https://cloud.google.com/vision/>)

[Documentation](https://cloud.google.com/vision/docs/) (<https://cloud.google.com/vision/docs/>) [Guides](#)

Small batch file annotation online

- **online (synchronous)** requests - An online annotation request (`images:annotate` or `files:annotate`) immediately returns inline annotations to the user. Online annotation requests limit the amount of files you can annotate in a single request; generally you can only specify a single file or small amount of files (≤ 5) to be annotated.
- **offline (asynchronous)** requests - An offline annotation request (`images:asyncBatchAnnotate` or `files:asyncBatchAnnotate`) starts a long-running operation (LRO) and does not immediately return a response to the caller. When the LRO completes, annotations are stored as files in a Cloud Storage bucket you specify. Offline annotation requests allow you to specify larger batches of files (≤ 2000) for annotation at a single time than you are able to with online requests.

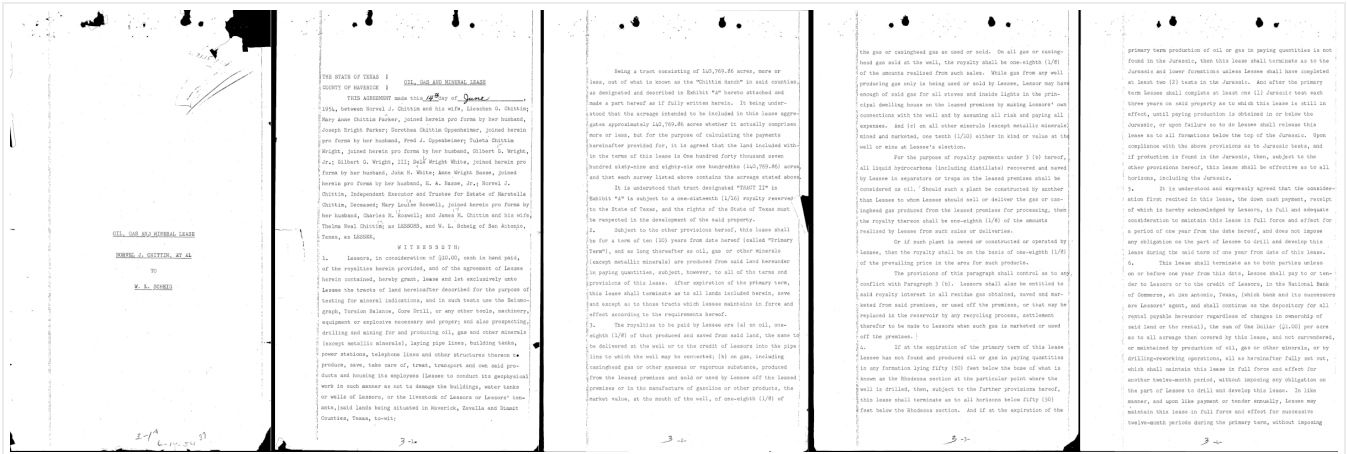
The Vision API can provide online (immediate) annotation of multiple pages or frames from PDF, TIFF, or GIF files stored in Cloud Storage.

You can request online feature detection and annotation of 5 frames (GIF; "image/gif") or pages (PDF; "application/pdf", or TIFF; "image/tiff") of your choosing for each file.

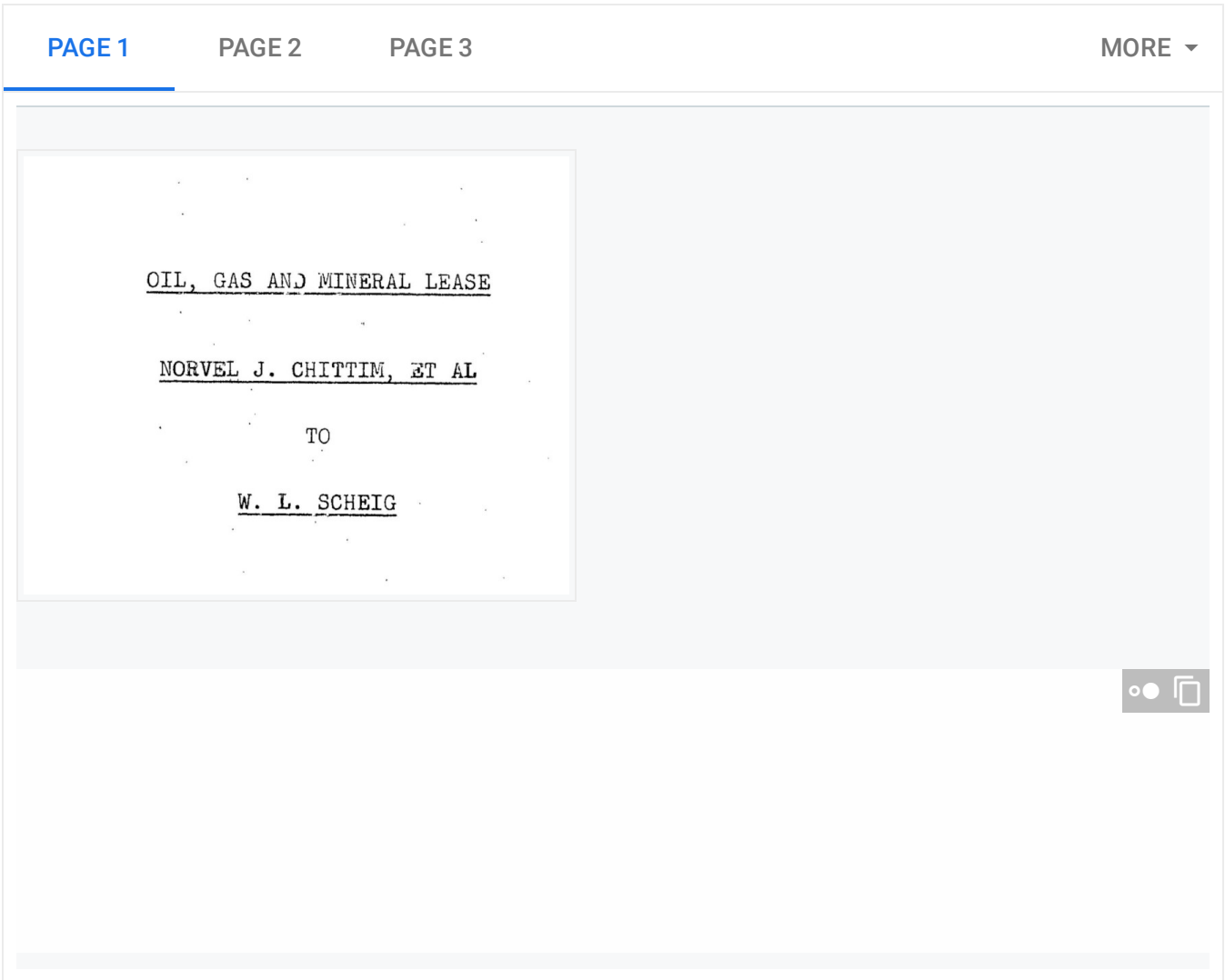
The example annotations on this page are for `DOCUMENT_TEXT_DETECTION`, but online small batch annotation is available for all Vision API [features](#) (#features).

Note: Vision API also supports **offline asynchronous PDF/TIFF file annotation**, currently only for the `DOCUMENT_TEXT_DETECTION` [feature type](#) (#features).

Offline asynchronous requests return response JSON files in your Cloud Storage bucket and supports files up to 2000 pages. For more information, refer to [Detect text in files \(PDF/TIFF\)](#) (<https://cloud.google.com/vision/docs/pdf>).



gs://cloud-samples-data/vision/document_understanding/custom_0773375000.pdf
 (https://storage.cloud.google.com/cloud-samples-data/vision/document_understanding/custom_0773375000.pdf)



Limitations

At most 5 pages will be annotated. Users can specify the specific 5 pages to be annotated.

Authentication

API keys are not supported for **files:annotate** requests.

Set up your GCP project and authentication

▼ If you have not created a [Google Cloud Platform \(GCP\) project](https://cloud.google.com/docs/overview/#projects) (<https://cloud.google.com/docs/overview/#projects>) and service account credentials, do so now. Expand this section for instructions.

1. [Sign in](https://accounts.google.com/Login) (<https://accounts.google.com/Login>) to your Google Account.

If you don't already have one, [sign up for a new account](https://accounts.google.com/SignUp) (<https://accounts.google.com/SignUp>).

2. Set up a Cloud Console project.

SET UP A PROJECT

Click to:

- Create or select a project.
- Enable the Cloud Vision API for that project.
- Create a service account.
- Download a private key as JSON.

You can view and manage these resources at any time in the [Cloud Console](https://console.cloud.google.com/) (<https://console.cloud.google.com/>).

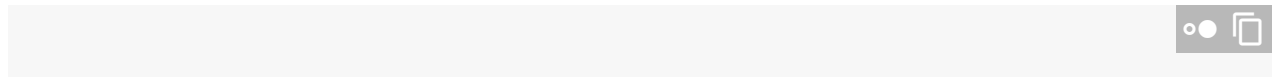
3. Set the environment variable **GOOGLE_APPLICATION_CREDENTIALS** to the file path of the JSON file that contains your service account key. This variable only applies to your current shell session, so if you open a new session, set the variable again.

▼ **Example:** Linux or macOS

Replace **[PATH]** with the file path of the JSON file that contains your service account key.



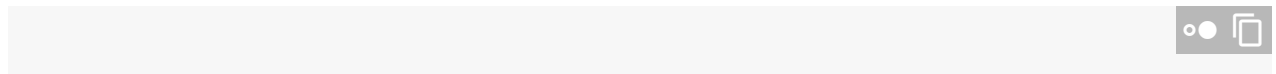
For example:



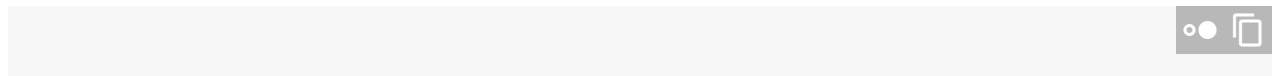
Example: Windows

Replace **[PATH]** with the file path of the JSON file that contains your service account key, and **[FILE_NAME]** with the filename.

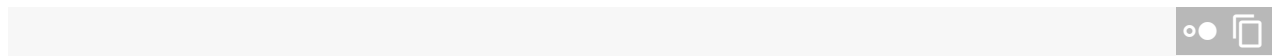
With PowerShell:



For example:



With command prompt:



4. Install and initialize the Cloud SDK (<https://cloud.google.com/sdk/docs/>).

Currently supported feature types

| Feature type | |
|---|---|
| CROP_HINTS (https://cloud.google.com/vision/docs/detecting-crop-hints) | Determine suggested vertices for a crop region on an image. |
| DOCUMENT_TEXT_DETECTION (https://cloud.google.com/vision/docs/pdf) | Perform OCR on dense text images, such as documents (PDF/TIFF), and images with handwriting. TEXT_DETECTION can be used for sparse text images. Takes precedence when both DOCUMENT_TEXT_DETECTION and TEXT_DETECTION are present. |

| Feature type | |
|--|---|
| FACE_DETECTION (https://cloud.google.com/vision/docs/detecting-faces) | Detect faces within the image. |
| IMAGE_PROPERTIES (https://cloud.google.com/vision/docs/detecting-properties) | Compute a set of image properties, such as the image's dominant colors. |
| LABEL_DETECTION (https://cloud.google.com/vision/docs/labels) | Add labels based on image content. |
| LANDMARK_DETECTION (https://cloud.google.com/vision/docs/detecting-landmarks) | Detect geographic landmarks within the image. |
| LOGO_DETECTION (https://cloud.google.com/vision/docs/detecting-logos) | Detect company logos within the image. |
| OBJECT_LOCALIZATION (https://cloud.google.com/vision/docs/object-localizer) | Detect and extract multiple objects in an image. |
| SAFE_SEARCH_DETECTION (https://cloud.google.com/vision/docs/detecting-safe-search) | Run Safe Search to detect potentially unsafe or undesirable content. |
| TEXT_DETECTION (https://cloud.google.com/vision/docs/ocr) | Perform Optical Character Recognition (OCR) on text within the image. Text detection is optimized for areas of sparse text within a larger image. If the image is a document (PDF/TIFF), has dense text, or contains handwriting, use DOCUMENT_TEXT_DETECTION instead. |
| WEB_DETECTION (https://cloud.google.com/vision/docs/detecting-web) | Detect topical entities such as news, events, or celebrities within the image, and find similar images on the web using the power of Google Image Search. |

Sample code

You can either send an annotation request with a [locally stored file](#) (#local-file), or use a file that is [stored on Cloud Storage](#) (#storage-file).

Using a locally stored file

Use the following code samples to get any feature

(<https://cloud.google.com/vision/docs/reference/rest/v1/Feature#type>) annotation for a locally stored file.

REST & CMD LINE

JAVA

MORE ▾

To perform online PDF/TIFF/GIF feature detection for a small batch of files, make a POST request and provide the appropriate request body:

Before using any of the request data below, make the following replacements:

- **base64-encoded-file**: The base64 representation (ASCII string) of your binary file data. This string should look similar to the following string:

- `JVBERi0xLjUNCiW1tbW1...ydHhyZWYNCjk5NzM2OQ0KJSVFT0Y=`

Visit the [base64 encode](https://cloud.google.com/vision/docs/base64) (<https://cloud.google.com/vision/docs/base64>) topic for more information.

Field-specific considerations:

- `inputConfig.mimeType` - One of the following: "application/pdf", "image/tiff" or "image/gif".
- `pages` (<https://cloud.google.com/vision/docs/reference/rest/v1/files/annotate#annotatefilerequest>) - specifies the specific pages of the file to perform feature detection.

HTTP method and URL:



Request JSON body:



base64-encoded-file

To send your request, choose one of these options:

CURL

POWERSHELL

Note: If you are not executing the command below from [Cloud Shell](https://cloud.google.com/shell/docs) (<https://cloud.google.com/shell/docs>) or [Compute Engine](https://cloud.google.com/compute/docs) (<https://cloud.google.com/compute/docs>), ensure you have set the [GOOGLE_APPLICATION_CREDENTIALS](https://cloud.google.com/docs/authentication/production) (<https://cloud.google.com/docs/authentication/production>) environment variable to your service account private key file path.

Save the request body in a file called `request.json`, and execute the following command:



Response:

A successful `annotate` request immediately returns a JSON response.

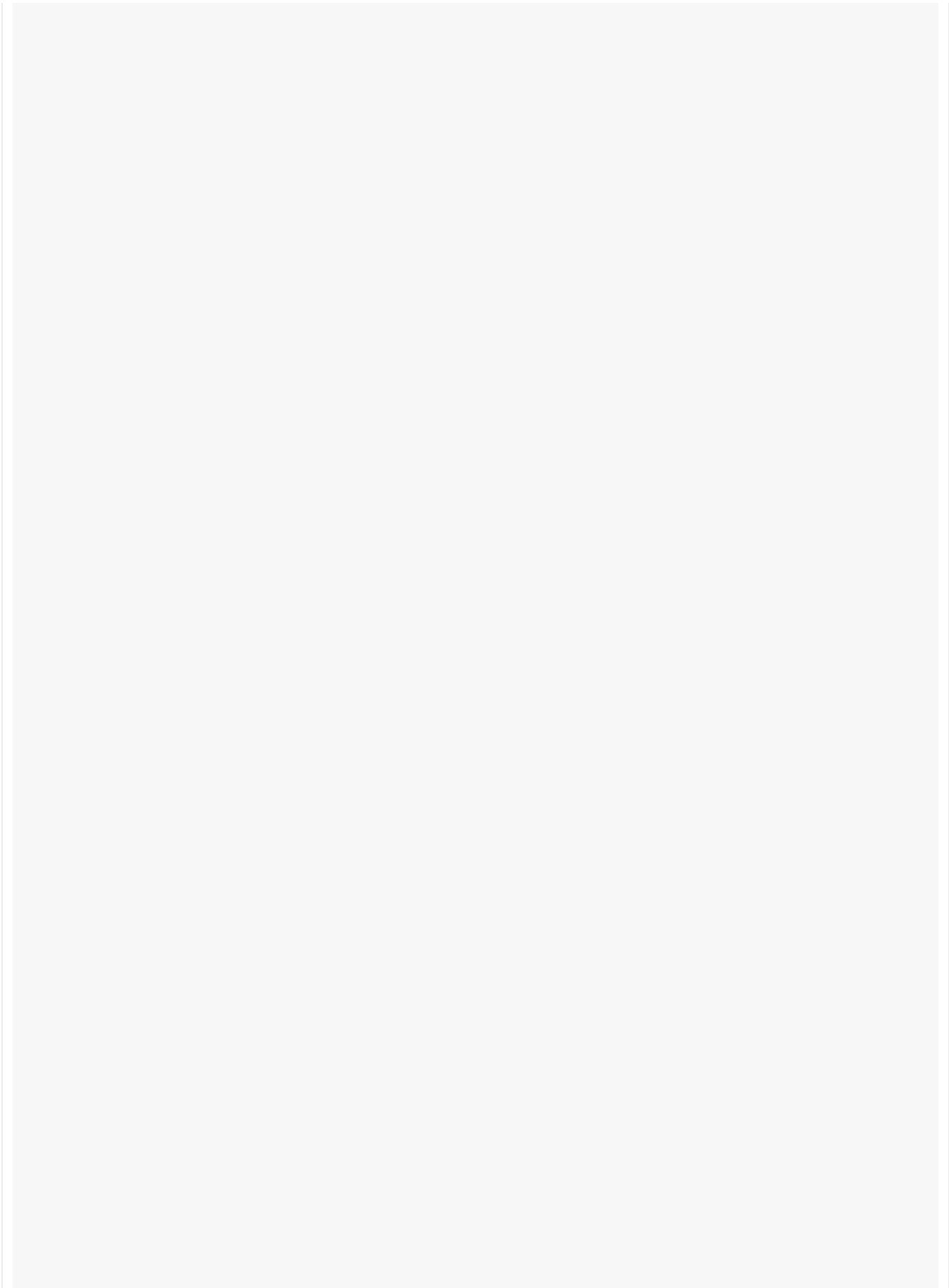
For this feature (`DOCUMENT_TEXT_DETECTION`) the JSON response is similar to that of an image's [document text detection request](https://cloud.google.com/vision/docs/handwriting) (<https://cloud.google.com/vision/docs/handwriting>). The response contains bounding boxes for blocks broken down by paragraphs, words, and individual symbols, as well as the full text detected. The response also contains a `context` field showing the location of the PDF or TIFF that was specified and the result's page number in the file.

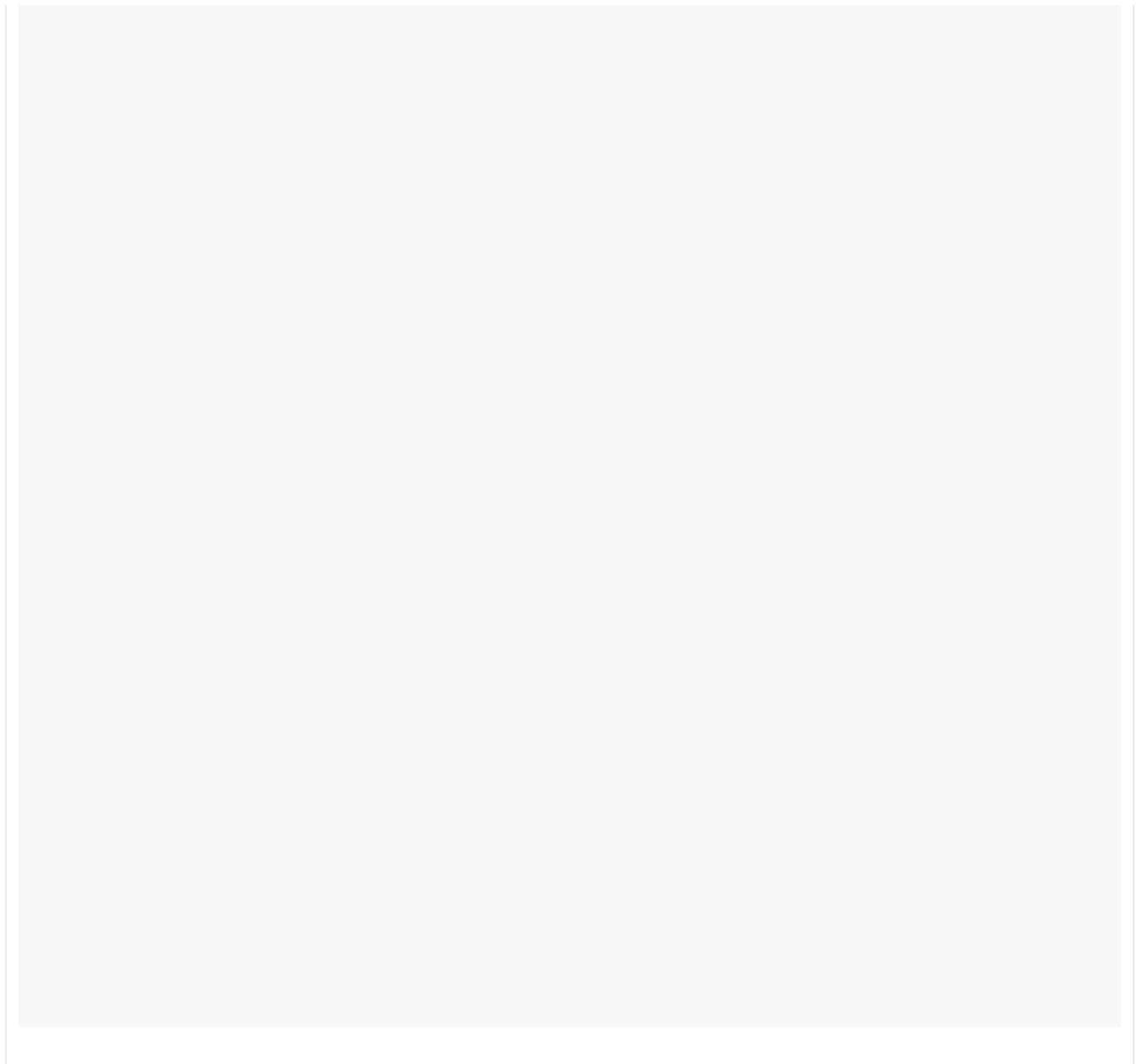
The response JSON shown is only for a single page (page 2), and has been shortened for clarity.



Response







Using a file on Cloud Storage

Use the following code samples to get any feature

(<https://cloud.google.com/vision/docs/reference/rest/v1/Feature#type>) annotation for a file on Cloud Storage.

REST & CMD LINE

JAVA

MORE ▾

To perform online PDF/TIFF/GIF feature detection for a small batch of files, make a `POST` request and provide the appropriate request body:

Before using any of the request data below, make the following replacements:

- ***cloud-storage-file-uri***: the path to a valid file (PDF/TIFF) in a Cloud Storage bucket. You must at least have read privileges to the file. Example:

•



Field-specific considerations:

- **`inputConfig.mimeType`** - One of the following: "application/pdf", "image/tiff" or "image/gif".
- **`pages`**
(<https://cloud.google.com/vision/docs/reference/rest/v1/files/annotate#annotatefilerequest>) - specifies the specific pages of the file to perform feature detection.

HTTP method and URL:



Request JSON body:



cloud-storage-file-uri

To send your request, choose one of these options:

CURL

POWERSHELL

Note: If you are not executing the command below from [Cloud Shell](https://cloud.google.com/shell/docs) (<https://cloud.google.com/shell/docs>) or [Compute Engine](https://cloud.google.com/compute/docs) (<https://cloud.google.com/compute/docs>), ensure you have set the [GOOGLE_APPLICATION_CREDENTIALS](https://cloud.google.com/docs/authentication/production) (<https://cloud.google.com/docs/authentication/production>) environment variable to your service account private key file path.

Save the request body in a file called `request.json`, and execute the following command:

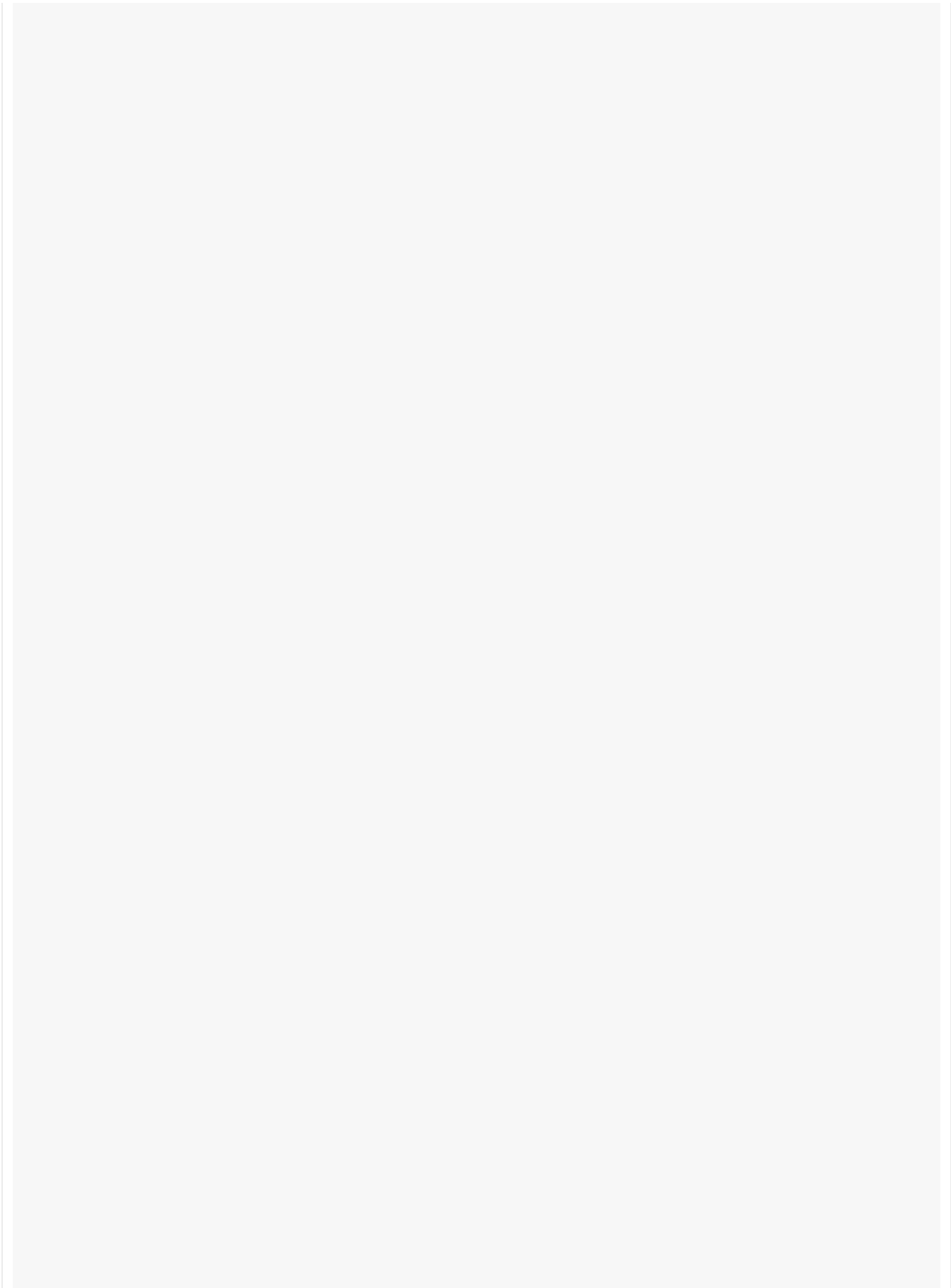
Response:

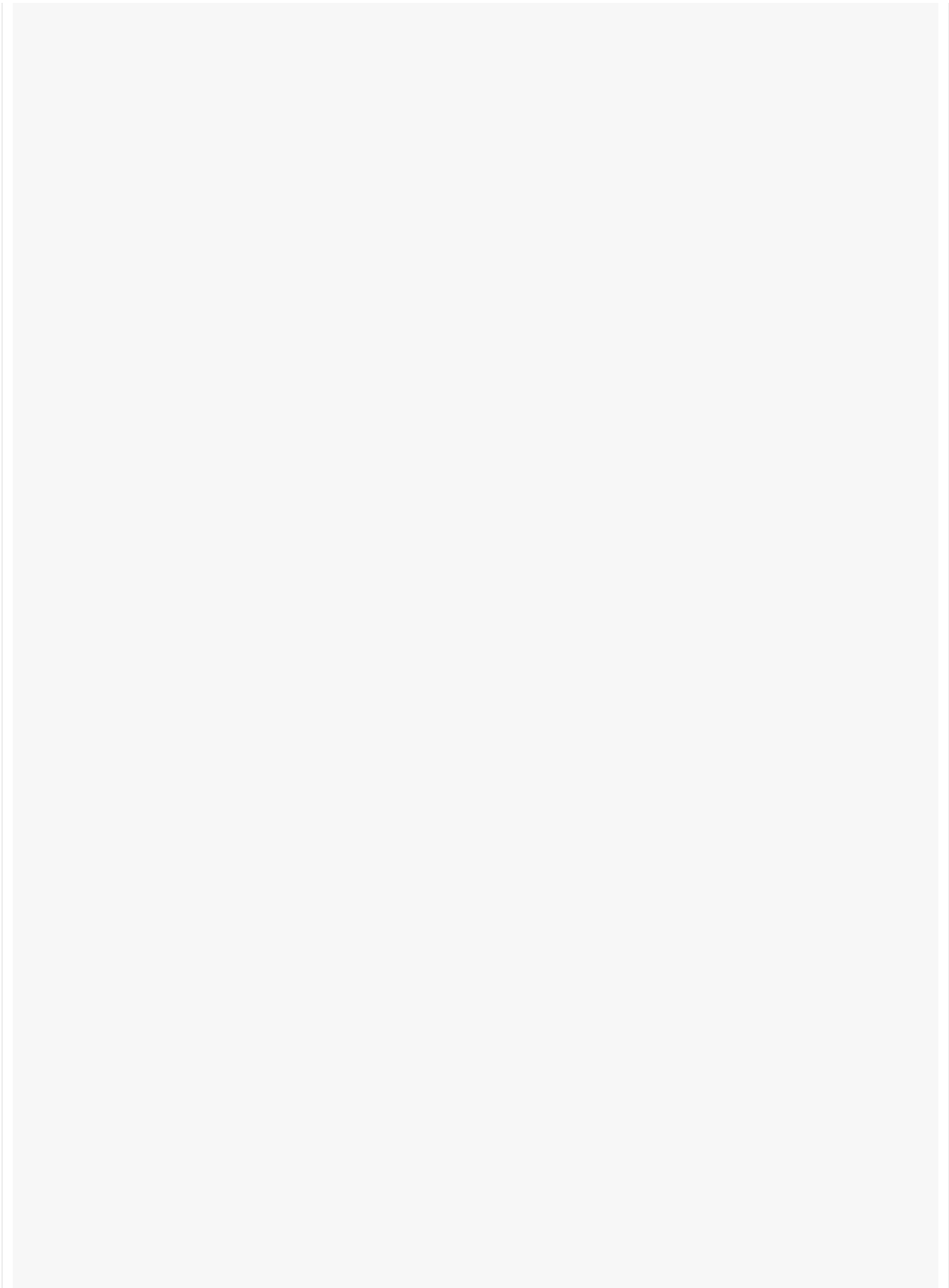
A successful `annotate` request immediately returns a JSON response.

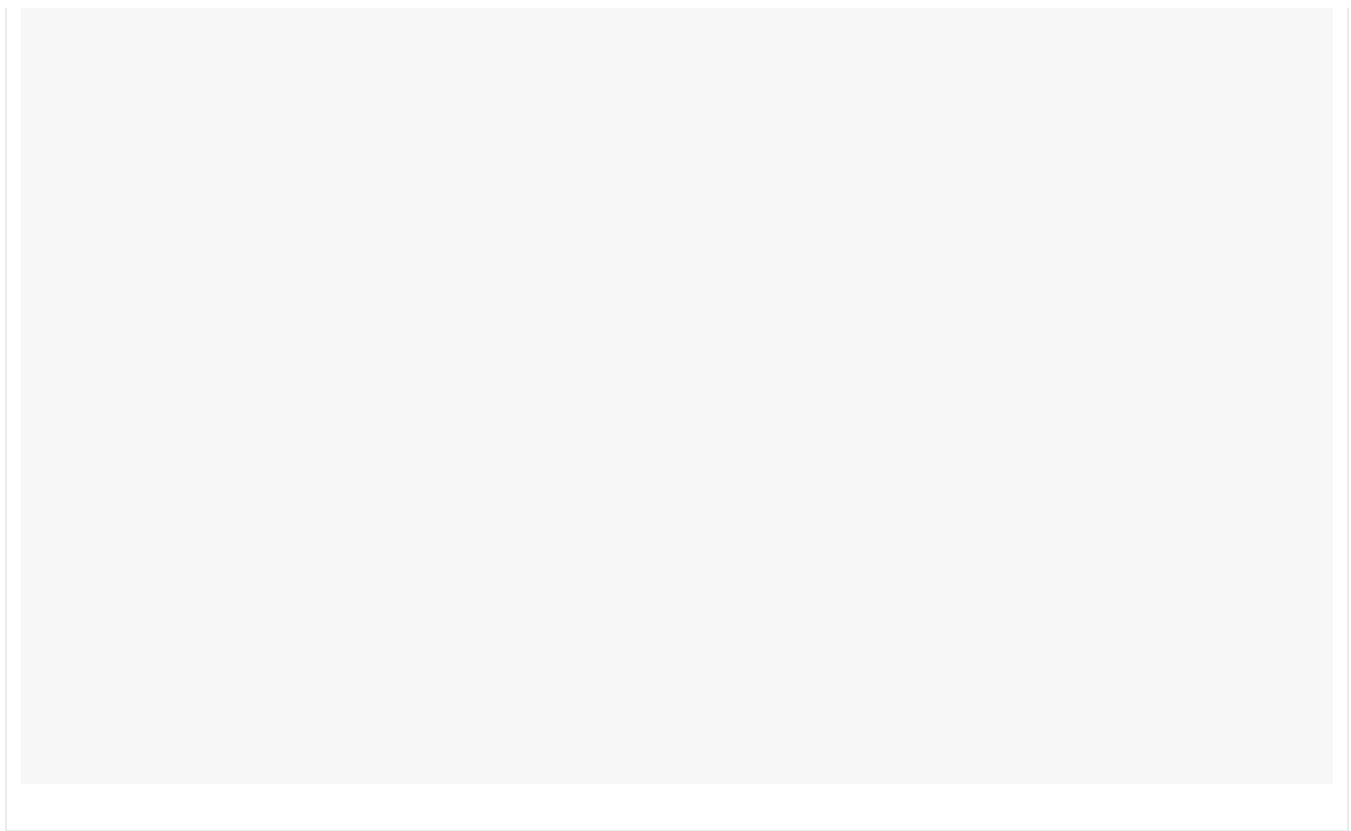
For this feature (`DOCUMENT_TEXT_DETECTION`) the JSON response is similar to that of an image's [document text detection request](https://cloud.google.com/vision/docs/handwriting) (<https://cloud.google.com/vision/docs/handwriting>). The response contains bounding boxes for blocks broken down by paragraphs, words, and individual symbols, as well as the full text detected. The response also contain a `context` field showing the location of the PDF or TIFF that was specified and the result's page number in the file.

The response JSON shown is only for a single page (page 2), and has been shortened for clarity.

⌵ **Response**



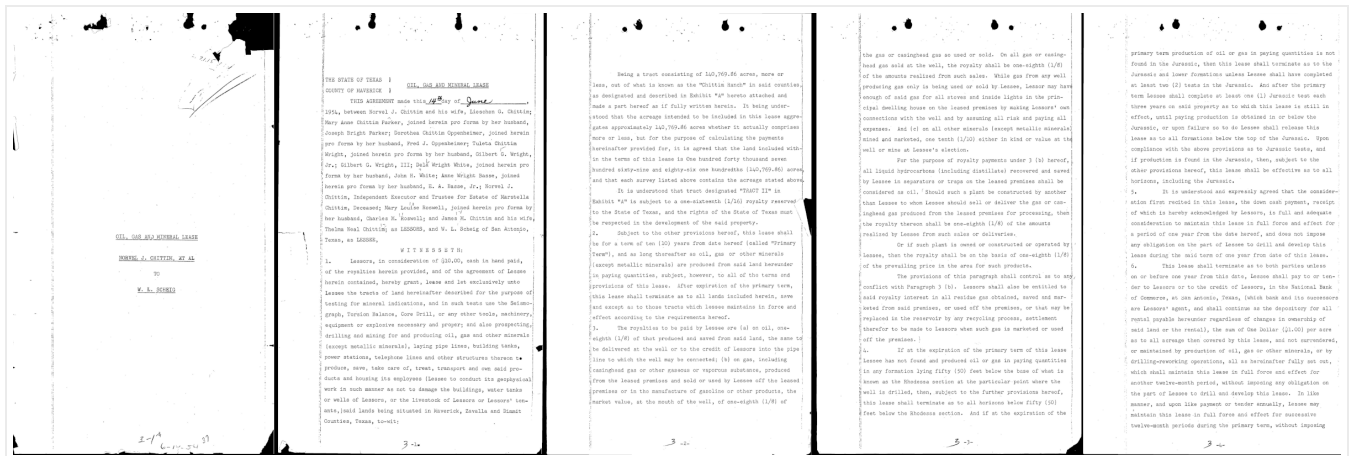




Try it

Try small batch online feature detection below.

You can use the PDF file specified already or specify your own file in its place.



https://cloud-samples-data/vision/document_understanding/custom_0773375000.pdf
(https://storage.cloud.google.com/cloud-samples-data/vision/document_understanding/custom_0773375000.pdf)

There are three feature types specified for this request:

- `DOCUMENT_TEXT_DETECTION`
- `LABEL_DETECTION`
- `CROP_HINTS`

You can add or remove other feature types (#features) by changing the appropriate object in the request (`{"type": "FEATURE_NAME" }`).

Send the request by selecting **Execute**.

Except as otherwise noted, the content of this page is licensed under the [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/) (https://creativecommons.org/licenses/by/4.0/), and code samples are licensed under the [Apache 2.0 License](https://www.apache.org/licenses/LICENSE-2.0) (https://www.apache.org/licenses/LICENSE-2.0). For details, see our [Site Policies](https://developers.google.com/terms/site-policies) (https://developers.google.com/terms/site-policies). Java is a registered trademark of Oracle and/or its affiliates.

Last updated January 6, 2020.