Cloud Vision API Product Search

AnnotateImageResponse

Response to an image annotation request.

JSON representation

```
{
  "faceAnnotations": [
    {
      object (FaceAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v
    }
  ],
  "landmarkAnnotations": [
    {
      object (EntityAnnotation (https://cloud.google.com/vision/product-search/docs/reference/res
    }
  ],
  "logoAnnotations": [
    {
      object (EntityAnnotation (https://cloud.google.com/vision/product-search/docs/reference/res
    }
  ],
  "labelAnnotations": [
    {
      object (EntityAnnotation (https://cloud.google.com/vision/product-search/docs/reference/res
    }
  ],
  "localizedObjectAnnotations": [
    {
      object (LocalizedObjectAnnotation (https://cloud.google.com/vision/product-search/docs/re
    }
  ],
  "textAnnotations": [
    {
      object (EntityAnnotation (https://cloud.google.com/vision/product-search/docs/reference/res
    }
  ],
  "fullTextAnnotation": {
    object (TextAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/
  },
  "safeSearchAnnotation": {
    object (SafeSearchAnnotation (https://cloud.google.com/vision/product-search/docs/reference/r
```

JSON representation

```
  },
  "imagePropertiesAnnotation": {
    object (ImageProperties (https://cloud.google.com/vision/product-search/docs/reference/rest/v1
  },
  "cropHintsAnnotation": {
    object (CropHintsAnnotation (https://cloud.google.com/vision/product-search/docs/reference/re
  },
  "webDetection": {
    object (WebDetection (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/An
  },
  "productSearchResults": {
    object (ProductSearchResults (https://cloud.google.com/vision/product-search/docs/reference/r
  },
  "error": {
    object (Status (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Status))
  },
  "context": {
    object (ImageAnnotationContext (https://cloud.google.com/vision/product-search/docs/referenc
  }
}
```

Fields

faceAnnotations[]	**object (FaceAnnotation** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#FaceAnnotation)) If present, face detection has completed successfully.
landmarkAnnotations[]	**object (EntityAnnotation** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#EntityAnnotation)) If present, landmark detection has completed successfully.

Fields	
`logoAnnotations[]`	`object (`EntityAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#EntityAnnotation) `)` If present, logo detection has completed successfully.
`labelAnnotations[]`	`object (`EntityAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#EntityAnnotation) `)` If present, label detection has completed successfully.
`localizedObjectAnnotations[]`	`object (`LocalizedObjectAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#LocalizedObjectAnnotation) `)` If present, localized object detection has completed successfully. This will be sorted descending by confidence score.
`textAnnotations[]`	`object (`EntityAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#EntityAnnotation) `)` If present, text (OCR) detection has completed successfully.
`fullTextAnnotation`	`object (`TextAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#TextAnnotation) `)` If present, text (OCR) detection or document (OCR) text detection has completed successfully. This annotation provides the structural hierarchy for the OCR detected text.

Fields	
`safeSearchAnnotation`	`object (`SafeSearchAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#SafeSearchAnnotation) `)` If present, safe-search annotation has completed successfully.
`imagePropertiesAnnotation`	`object (`ImageProperties (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#ImageProperties) `)` If present, image properties were extracted successfully.
`cropHintsAnnotation`	`object (`CropHintsAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#CropHintsAnnotation) `)` If present, crop hints have completed successfully.
`webDetection`	`object (`WebDetection (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#WebDetection) `)` If present, web detection has completed successfully.
`productSearchResults`	`object (`ProductSearchResults (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#ProductSearchResults) `)` If present, product search has completed successfully.

Fields	
`error`	`object (`Status (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Status)`)` If set, represents the error message for the operation. Note that filled-in image annotations are guaranteed to be correct, even when `error` is set.
`context`	`object (`ImageAnnotationContext (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#ImageAnnotationContext)`)` If present, contextual information is needed to understand where this image comes from.

FaceAnnotation

A face annotation object contains the results of face detection.

JSON representation

JSON representation

```
{
  "boundingPoly": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  },
  "fdBoundingPoly": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  },
  "landmarks": [
    {
      object (Landmark (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Anno
    }
  ],
  "rollAngle": number,
  "panAngle": number,
  "tiltAngle": number,
  "detectionConfidence": number,
  "landmarkingConfidence": number,
  "joyLikelihood": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/referen
  "sorrowLikelihood": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/ref
  "angerLikelihood": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/refer
  "surpriseLikelihood": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/r
  "underExposedLikelihood": enum (Likelihood (https://cloud.google.com/vision/product-search/d
  "blurredLikelihood": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/re
  "headwearLikelihood": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/r
}
```

Fields

boundingPoly	**object (BoundingPoly** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly)) The bounding polygon around the face. The coordinates of the bounding box are in the original image's scale. The bounding box is computed to "frame" the face in accordance with human expectations. It is based on the landmarker results. Note that one or more x and/or y coordinates may not be generated in the **BoundingPoly** (the polygon will be unbounded) if only a partial face appears in the image to be annotated.

Fields	

`fdBoundingPoly`	`object (`BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly)`)`
	
	The `fdBoundingPoly` bounding polygon is tighter than the `boundingPoly`, and encloses only the skin part of the face. Typically, it is used to eliminate the face from any image analysis that detects the "amount of skin" visible in an image. It is not based on the landmarker results, only on the initial face detection, hence the
	
	`fd`
	
	(face detection) prefix.

`landmarks[]`	`object (`Landmark (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Landmark)`)` Detected face landmarks.
`rollAngle`	`number` Roll angle, which indicates the amount of clockwise/anti-clockwise rotation of the face relative to the image vertical about the axis perpendicular to the face. Range [-180,180].
`panAngle`	`number` Yaw angle, which indicates the leftward/rightward angle that the face is pointing relative to the vertical plane perpendicular to the image. Range [-180,180].
`tiltAngle`	`number` Pitch angle, which indicates the upwards/downwards angle that the face is pointing relative to the image's horizontal plane. Range [-180,180].
`detectionConfidence`	`number` Detection confidence. Range [0, 1].

Fields	
`landmarkingConfidence`	`number` Face landmarking confidence. Range [0, 1].
`joyLikelihood`	`enum (`**Likelihood** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Joy likelihood.
`sorrowLikelihood`	`enum (`**Likelihood** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Sorrow likelihood.
`angerLikelihood`	`enum (`**Likelihood** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Anger likelihood.
`surpriseLikelihood`	`enum (`**Likelihood** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Surprise likelihood.
`underExposedLikelihood`	`enum (`**Likelihood** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Under-exposed likelihood.

Fields	
`blurredLikelihood`	`enum (`**Likelihood** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Blurred likelihood.
`headwearLikelihood`	`enum (`**Likelihood** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Headwear likelihood.

Landmark

A face-specific landmark (for example, a face feature).

JSON representation

```
{
  "type": enum (Type (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annota
  "position": {
    object (Position (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annota
  }
}
```

Fields	
`type`	`enum (`**Type** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Type)`)` Face landmark type.

Fields	
position	object (Position (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Position)) Face landmark position.

Type

Face landmark (feature) type. Left and right are defined from the vantage of the viewer of the image without considering mirror projections typical of photos. So, `LEFT_EYE`, typically, is the person's right eye.

Enums	
UNKNOWN_LANDMARK	Unknown face landmark detected. Should not be filled.
LEFT_EYE	Left eye.
RIGHT_EYE	Right eye.
LEFT_OF_LEFT_EYEBROW	Left of left eyebrow.
RIGHT_OF_LEFT_EYEBROW	Right of left eyebrow.
LEFT_OF_RIGHT_EYEBROW	Left of right eyebrow.
RIGHT_OF_RIGHT_EYEBROW	Right of right eyebrow.
MIDPOINT_BETWEEN_EYES	Midpoint between eyes.
NOSE_TIP	Nose tip.
UPPER_LIP	Upper lip.
LOWER_LIP	Lower lip.
MOUTH_LEFT	Mouth left.
MOUTH_RIGHT	Mouth right.

Enums	
MOUTH_CENTER	Mouth center.
NOSE_BOTTOM_RIGHT	Nose, bottom right.
NOSE_BOTTOM_LEFT	Nose, bottom left.
NOSE_BOTTOM_CENTER	Nose, bottom center.
LEFT_EYE_TOP_BOUNDARY	Left eye, top boundary.
LEFT_EYE_RIGHT_CORNER	Left eye, right corner.
LEFT_EYE_BOTTOM_BOUNDARY	Left eye, bottom boundary.
LEFT_EYE_LEFT_CORNER	Left eye, left corner.
RIGHT_EYE_TOP_BOUNDARY	Right eye, top boundary.
RIGHT_EYE_RIGHT_CORNER	Right eye, right corner.
RIGHT_EYE_BOTTOM_BOUNDARY	Right eye, bottom boundary.
RIGHT_EYE_LEFT_CORNER	Right eye, left corner.
LEFT_EYEBROW_UPPER_MIDPOINT	Left eyebrow, upper midpoint.
RIGHT_EYEBROW_UPPER_MIDPOINT	Right eyebrow, upper midpoint.
LEFT_EAR_TRAGION	Left ear tragion.
RIGHT_EAR_TRAGION	Right ear tragion.
LEFT_EYE_PUPIL	Left eye pupil.
RIGHT_EYE_PUPIL	Right eye pupil.
FOREHEAD_GLABELLA	Forehead glabella.
CHIN_GNATHION	Chin gnathion.
CHIN_LEFT_GONION	Chin left gonion.
CHIN_RIGHT_GONION	Chin right gonion.

Position

A 3D position in the image, used primarily for Face detection landmarks. A valid Position must have both x and y coordinates. The position coordinates are in the same scale as the original image.

JSON representation

```
{
  "x": number,
  "y": number,
  "z": number
}
```

Fields	
x	**number** X coordinate.
y	**number** Y coordinate.
z	**number** Z coordinate (or depth).

Likelihood

A bucketized representation of likelihood, which is intended to give clients highly stable results across model upgrades.

Enums	
UNKNOWN	Unknown likelihood.
VERY_UNLIKELY	It is very unlikely.
UNLIKELY	It is unlikely.

Enums	
POSSIBLE	It is possible.
LIKELY	It is likely.
VERY_LIKELY	It is very likely.

EntityAnnotation

Set of detected entity features.

JSON representation

```
{
  "mid": string,
  "locale": string,
  "description": string,
  "score": number,
  "confidence": number,
  "topicality": number,
  "boundingPoly": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  },
  "locations": [
    {
      object (LocationInfo (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/
    }
  ],
  "properties": [
    {
      object (Property (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annc
    }
  ]
}
```

Fields

Fields	
`mid`	`string` Opaque entity ID. Some IDs may be available in Google Knowledge Graph Search API (https://developers.google.com/knowledge-graph/).
`locale`	`string` The language code for the locale in which the entity textual `description` is expressed.
`description`	`string` Entity textual description, expressed in its `locale` language.
`score`	`number` Overall score of the result. Range [0, 1].
`confidence (deprecated)`	`number` ⚠ This item is deprecated! **Deprecated. Use `score` instead.** The accuracy of the entity detection in an image. For example, for an image in which the "Eiffel Tower" entity is detected, this field represents the confidence that there is a tower in the query image. Range [0, 1].
`topicality`	`number` The relevancy of the ICA (Image Content Annotation) label to the image. For example, the relevancy of "tower" is likely higher to an image containing the detected "Eiffel Tower" than to an image containing a detected distant towering building, even though the confidence that there is a tower in each image may be the same. Range [0, 1].
`boundingPoly`	`object (BoundingPoly` (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly)) Image region to which this entity belongs. Not produced for `LABEL_DETECTION` features.

Fields	
`locations[]`	**`object (`**[**`LocationInfo`**](https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#LocationInfo)**`)`** The location information for the detected entity. Multiple **`LocationInfo`** elements can be present because one location may indicate the location of the scene in the image, and another location may indicate the location of the place where the image was taken. Location information is usually present for landmarks.
`properties[]`	**`object (`**[**`Property`**](https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Property)**`)`** Some entities may have optional user-supplied **`Property`** (name/value) fields, such a score or string that qualifies the entity.

LocationInfo

Detected entity location information.

JSON representation

```
{
  "latLng": {
    object (LatLng (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/LatLng))
  }
}
```

Fields	
`latLng`	**`object (`**[**`LatLng`**](https://cloud.google.com/vision/product-search/docs/reference/rest/v1/LatLng)**`)`** lat/long location coordinates.

Property

A `Property` consists of a user-supplied name/value pair.

JSON representation

```
{
  "name": string,
  "value": string,
  "uint64Value": string
}
```

Fields	
name	**string** Name of the property.
value	**string** Value of the property.
uint64Value	**string** Value of numeric properties.

LocalizedObjectAnnotation

Set of detected objects with bounding boxes.

JSON representation

```
{
  "mid": string,
  "languageCode": string,
  "name": string,
  "score": number,
  "boundingPoly": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  }
}
```

Fields	
`mid`	`string` Object ID that should align with EntityAnnotation mid.
`languageCode`	`string` The BCP-47 language code, such as "en-US" or "sr-Latn". For more information, see http://www.unicode.org/reports/tr35/#Unicode_locale_identifier (http://www.unicode.org/reports/tr35/#Unicode_locale_identifier).
`name`	`string` Object name, expressed in its **`languageCode`** language.
`score`	`number` Score of the result. Range [0, 1].
`boundingPoly`	`object (BoundingPoly` (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly) `)` Image region to which this object belongs. This must be populated.

TextAnnotation

TextAnnotation contains a structured representation of OCR extracted text. The hierarchy of an OCR extracted text structure is like this: TextAnnotation -> Page -> Block -> Paragraph -> Word -> Symbol Each structural component, starting from Page, may further have their own properties. Properties describe detected languages, breaks etc.. Please refer to the `TextAnnotation.TextProperty` (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#TextProperty) message definition below for more detail.

JSON representation

JSON representation

```
{
  "pages": [
    {
      object (Page (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annotatel
    }
  ],
  "text": string
}
```

Fields

`pages[]`	`object (`Page (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Page) `)` List of pages detected by OCR.
`text`	`string` UTF-8 text detected on the pages.

Page

Detected page from OCR.

JSON representation

JSON representation

```
{
  "property": {
    object (TextProperty (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/An
  },
  "width": number,
  "height": number,
  "blocks": [
    {
      object (Block (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annotate
    }
  ],
  "confidence": number
}
```

Fields

`property`	`object (TextProperty (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#TextProperty))` Additional information detected on the page.
`width`	`number` Page width. For PDFs the unit is points. For images (including TIFFs) the unit is pixels.
`height`	`number` Page height. For PDFs the unit is points. For images (including TIFFs) the unit is pixels.
`blocks[]`	`object (Block (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Block))` List of blocks of text, images etc on this page.
`confidence`	`number` Confidence of the OCR results on the page. Range [0, 1].

TextProperty

Additional information detected on the structural component.

JSON representation

```
{
  "detectedLanguages": [
    {
      object (DetectedLanguage (https://cloud.google.com/vision/product-search/docs/reference/res
    }
  ],
  "detectedBreak": {
    object (DetectedBreak (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/A
  }
}
```

Fields	
`detectedLanguages[]`	`object (DetectedLanguage` (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#DetectedLanguage)) A list of detected languages together with confidence.
`detectedBreak`	`object (DetectedBreak` (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#DetectedBreak)) Detected start or end of a text segment.

DetectedLanguage

Detected language for a structural component.

JSON representation

JSON representation

```
{
  "languageCode": string,
  "confidence": number
}
```

Fields	
`languageCode`	`string` The BCP-47 language code, such as "en-US" or "sr-Latn". For more information, see http://www.unicode.org/reports/tr35/#Unicode_locale_identifier (http://www.unicode.org/reports/tr35/#Unicode_locale_identifier).
`confidence`	`number` Confidence of detected language. Range [0, 1].

DetectedBreak

Detected start or end of a structural component.

JSON representation

```
{
  "type": enum (BreakType (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/A
  "isPrefix": boolean
}
```

Fields	
`type`	`enum (`BreakType (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#BreakType)) Detected break type.

Fields	
`isPrefix`	**`boolean`** True if break prepends the element.

BreakType

Enum to denote the type of break found. New line, space etc.

Enums	
`UNKNOWN`	Unknown break label type.
`SPACE`	Regular space.
`SURE_SPACE`	Sure space (very wide).
`EOL_SURE_SPACE`	Line-wrapping break.
`HYPHEN`	End-line hyphen that is not present in text; does not co-occur with `SPACE`, `LEADER_SPACE`, or `LINE_BREAK`.
`LINE_BREAK`	Line break that ends a paragraph.

Block

Logical element on the page.

JSON representation

JSON representation

```
{
  "property": {
    object (TextProperty (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/An
  },
  "boundingBox": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  },
  "paragraphs": [
    {
      object (Paragraph (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Ann
    }
  ],
  "blockType": enum (BlockType (https://cloud.google.com/vision/product-search/docs/reference/res
  "confidence": number
}
```

Fields

property	**object (TextProperty** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#TextProperty) **)** Additional information detected for the block.

Fields	

boundingBox	object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly))
	
	The bounding box for the block. The vertices are in the order of top-left, top-right, bottom-right, bottom-left. When a rotation of the bounding box is detected the rotation is represented as around the top-left corner as defined when the text is read in the 'natural' orientation. For example:
	
	• when the text is horizontal it might look like:
	
	`0----1`
	`|  |`
	`3----2`
	
	• when it's rotated 180 degrees around the top-left corner it becomes:
	
	`2----3`
	`|  |`
	`1----0`
	
	and the vertex order will still be (0, 1, 2, 3).

paragraphs[]	object (Paragraph (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Paragraph)) List of paragraphs in this block (if this blocks is of type text).
blockType	enum (BlockType (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#BlockType)) Detected block type (text, image etc) for this block.
confidence	number Confidence of the OCR results on the block. Range [0, 1].

Paragraph

Structural unit of text representing a number of words in certain order.

JSON representation

```
{
  "property": {
    object (TextProperty (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/An
  },
  "boundingBox": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  },
  "words": [
    {
      object (Word (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateI
    }
  ],
  "confidence": number
}
```

Fields	
property	object (TextProperty (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#TextProperty)) Additional information detected for the paragraph.
boundingBox	object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly)) The bounding box for the paragraph. The vertices are in the order of top-left, top-right, bottom-right, bottom-left. When a rotation of the bounding box is detected the rotation is represented as around the top-left corner as defined when the text is read in the 'natural' orientation. For example: * when the text is horizontal it might look like: 0----1 | | 3----2 * when it's rotated 180 degrees around the top-left corner it becomes: 2----3 | | 1----0 and the vertex order will still be (0, 1, 2, 3).

Fields	
`words[]`	`object (Word (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Word))` List of all words in this paragraph.
`confidence`	`number` Confidence of the OCR results for the paragraph. Range [0, 1].

Word

A word representation.

JSON representation

```
{
  "property": {
    object (TextProperty (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/An
  },
  "boundingBox": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  },
  "symbols": [
    {
      object (Symbol (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annota
    }
  ],
  "confidence": number
}
```

Fields

Fields	
`property`	`object (`TextProperty (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#TextProperty)`)` Additional information detected for the word.
`boundingBox`	`object (`BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly)`)` The bounding box for the word. The vertices are in the order of top-left, top-right, bottom-right, bottom-left. When a rotation of the bounding box is detected the rotation is represented as around the top-left corner as defined when the text is read in the 'natural' orientation. For example: * when the text is horizontal it might look like: 0----1 | | 3----2 * when it's rotated 180 degrees around the top-left corner it becomes: 2----3 | | 1----0 and the vertex order will still be (0, 1, 2, 3).
`symbols[]`	`object (`Symbol (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Symbol)`)` List of symbols in the word. The order of the symbols follows the natural reading order.
`confidence`	`number` Confidence of the OCR results for the word. Range [0, 1].

Symbol

A single symbol representation.

JSON representation

JSON representation

```
{
  "property": {
    object (TextProperty (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/An
  },
  "boundingBox": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  },
  "text": string,
  "confidence": number
}
```

Fields

property	**object (TextProperty** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#TextProperty) **)** Additional information detected for the symbol.
boundingBox	**object (BoundingPoly** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly) **)** The bounding box for the symbol. The vertices are in the order of top-left, top-right, bottom-right, bottom-left. When a rotation of the bounding box is detected the rotation is represented as around the top-left corner as defined when the text is read in the 'natural' orientation. For example: * when the text is horizontal it might look like: 0----1 | | 3----2 * when it's rotated 180 degrees around the top-left corner it becomes: 2----3 | | 1----0 and the vertex order will still be (0, 1, 2, 3).
text	**string** The actual UTF-8 representation of the symbol.
confidence	**number** Confidence of the OCR results for the symbol. Range [0, 1].

BlockType

Type of a block (text, image etc) as identified by OCR.

Enums	
UNKNOWN	Unknown block type.
TEXT	Regular text block.
TABLE	Table block.
PICTURE	Image block.
RULER	Horizontal/vertical line box.
BARCODE	Barcode block.

SafeSearchAnnotation

Set of features pertaining to the image, computed by computer vision methods over safe-search verticals (for example, adult, spoof, medical, violence).

JSON representation

```
{
  "adult": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/reference/rest/v1
  "spoof": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/reference/rest/v1
  "medical": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/reference/rest/
  "violence": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/reference/res
  "racy": enum (Likelihood (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/
}
```

Fields

Fields	
`adult`	`enum (`Likelihood (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Represents the adult content likelihood for the image. Adult content may contain elements such as nudity, pornographic images or cartoons, or sexual activities.
`spoof`	`enum (`Likelihood (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Spoof likelihood. The likelihood that an modification was made to the image's canonical version to make it appear funny or offensive.
`medical`	`enum (`Likelihood (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Likelihood that this is a medical image.
`violence`	`enum (`Likelihood (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Likelihood that this image contains violent content.
`racy`	`enum (`Likelihood (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Likelihood)`)` Likelihood that the request image contains racy content. Racy content may include (but is not limited to) skimpy or sheer clothing, strategically covered nudity, lewd or provocative poses, or close-ups of sensitive body areas.

ImageProperties

Stores image properties, such as dominant colors.

JSON representation
{ "dominantColors": { object (DominantColorsAnnotation (https://cloud.google.com/vision/product-search/docs/refere } }

Fields	
dominantColors	object (DominantColorsAnnotation (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#DominantColorsAnnotation)) If present, dominant colors completed successfully.

DominantColorsAnnotation

Set of dominant colors and their corresponding scores.

JSON representation
{ "colors": [{ object (ColorInfo (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Ann }] }

Fields

Fields	
`colors[]`	`object (`**ColorInfo** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#ColorInfo)`)` RGB color values with their score and pixel fraction.

ColorInfo

Color information consists of RGB channels, score, and the fraction of the image that the color occupies in the image.

JSON representation

```
{
  "color": {
    object (Color (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateIm
  },
  "score": number,
  "pixelFraction": number
}
```

Fields	
`color`	`object (`**Color** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Color)`)` RGB components of the color.
`score`	`number` Image-specific score for this color. Value in range [0, 1].
`pixelFraction`	`number` The fraction of pixels the color occupies in the image. Value in range [0, 1].

Color

Represents a color in the RGBA color space. This representation is designed for simplicity of conversion to/from color representations in various languages over compactness; for example, the fields of this representation can be trivially provided to the constructor of "java.awt.Color" in Java; it can also be trivially provided to UIColor's "+colorWithRed:green:blue:alpha" method in iOS; and, with just a little work, it can be easily formatted into a CSS "rgba()" string in JavaScript, as well.

Note: this proto does not carry information about the absolute color space that should be used to interpret the RGB value (e.g. sRGB, Adobe RGB, DCI-P3, BT.2020, etc.). By default, applications SHOULD assume the sRGB color space.

Example (Java):

```
import com.google.type.Color;

// ...
public static java.awt.Color fromProto(Color protocolor) {
  float alpha = protocolor.hasAlpha()
      ? protocolor.getAlpha().getValue()
      : 1.0;

  return new java.awt.Color(
      protocolor.getRed(),
      protocolor.getGreen(),
      protocolor.getBlue(),
      alpha);
}

public static Color toProto(java.awt.Color color) {
  float red = (float) color.getRed();
  float green = (float) color.getGreen();
  float blue = (float) color.getBlue();
  float denominator = 255.0;
  Color.Builder resultBuilder =
      Color
          .newBuilder()
          .setRed(red / denominator)
          .setGreen(green / denominator)
          .setBlue(blue / denominator);
  int alpha = color.getAlpha();
  if (alpha != 255) {
```

```
    result.setAlpha(
        FloatValue
            .newBuilder()
            .setValue(((float) alpha) / denominator)
            .build());
  }
  return resultBuilder.build();
}
// ...
```

Example (iOS / Obj-C):

```
// ...
static UIColor* fromProto(Color* protocolor) {
   float red = [protocolor red];
   float green = [protocolor green];
   float blue = [protocolor blue];
   FloatValue* alpha_wrapper = [protocolor alpha];
   float alpha = 1.0;
   if (alpha_wrapper != nil) {
     alpha = [alpha_wrapper value];
   }
   return [UIColor colorWithRed:red green:green blue:blue alpha:alpha];
}

static Color* toProto(UIColor* color) {
    CGFloat red, green, blue, alpha;
    if (![color getRed:&red green:&green blue:&blue alpha:&alpha]) {
      return nil;
    }
    Color* result = [[Color alloc] init];
    [result setRed:red];
    [result setGreen:green];
    [result setBlue:blue];
    if (alpha <= 0.9999) {
      [result setAlpha:floatWrapperWithValue(alpha)];
    }
    [result autorelease];
    return result;
}
// ...
```

Example (JavaScript):

```
// ...

var protoToCssColor = function(rgb_color) {
   var redFrac = rgb_color.red || 0.0;
   var greenFrac = rgb_color.green || 0.0;
   var blueFrac = rgb_color.blue || 0.0;
   var red = Math.floor(redFrac * 255);
   var green = Math.floor(greenFrac * 255);
   var blue = Math.floor(blueFrac * 255);

   if (!('alpha' in rgb_color)) {
      return rgbToCssColor_(red, green, blue);
   }

   var alphaFrac = rgb_color.alpha.value || 0.0;
   var rgbParams = [red, green, blue].join(',');
   return ['rgba(', rgbParams, ',', alphaFrac, ')'].join('');
};

var rgbToCssColor_ = function(red, green, blue) {
  var rgbNumber = new Number((red << 16) | (green << 8) | blue);
  var hexString = rgbNumber.toString(16);
  var missingZeros = 6 - hexString.length;
  var resultBuilder = ['#'];
  for (var i = 0; i < missingZeros; i++) {
     resultBuilder.push('0');
  }
  resultBuilder.push(hexString);
  return resultBuilder.join('');
};

// ...
```

JSON representation

```
{
  "red": number,
  "green": number,
  "blue": number,
  "alpha": number
}
```

Fields

Fields	
`red`	`number` The amount of red in the color as a value in the interval [0, 1].
`green`	`number` The amount of green in the color as a value in the interval [0, 1].
`blue`	`number` The amount of blue in the color as a value in the interval [0, 1].
`alpha`	`number` The fraction of this color that should be applied to the pixel. That is, the final pixel color is defined by the equation: pixel color = alpha * (this color) + (1.0 - alpha) * (background color) This means that a value of 1.0 corresponds to a solid color, whereas a value of 0.0 corresponds to a completely transparent color. This uses a wrapper message rather than a simple float scalar so that it is possible to distinguish between a default value and the value being unset. If omitted, this color object is to be rendered as a solid color (as if the alpha value had been explicitly given with a value of 1.0).

CropHintsAnnotation

Set of crop hints that are used to generate new crops when serving images.

JSON representation

```
{
  "cropHints": [
    {
      object (CropHint (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annc
    }
  ]
}
```

Fields	
`cropHints[]`	`object (`CropHint (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#CropHint) `)` Crop hint results.

CropHint

Single crop hint that is used to generate a new crop when serving an image.

JSON representation

```
{
  "boundingPoly": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  },
  "confidence": number,
  "importanceFraction": number
}
```

Fields	
`boundingPoly`	`object (`BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly) `)` The bounding polygon for the crop region. The coordinates of the bounding box are in the original image's scale.
`confidence`	`number` Confidence of this being a salient region. Range [0, 1].
`importanceFraction`	`number` Fraction of importance of this salient region with respect to the original image.

WebDetection

Relevant information for the image from the Internet.

JSON representation

```
{
  "webEntities": [
    {
      object (WebEntity (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Ann
    }
  ],
  "fullMatchingImages": [
    {
      object (WebImage (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annc
    }
  ],
  "partialMatchingImages": [
    {
      object (WebImage (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annc
    }
  ],
  "pagesWithMatchingImages": [
    {
      object (WebPage (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annot
    }
  ],
  "visuallySimilarImages": [
    {
      object (WebImage (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annc
    }
  ],
  "bestGuessLabels": [
    {
      object (WebLabel (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annc
    }
  ]
}
```

Fields

Fields	
`webEntities[]`	`object (`**WebEntity** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#WebEntity)`)` Deduced entities from similar images on the Internet.
`fullMatchingImages[]`	`object (`**WebImage** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#WebImage)`)` Fully matching images from the Internet. Can include resized copies of the query image.
`partialMatchingImages[]`	`object (`**WebImage** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#WebImage)`)` Partial matching images from the Internet. Those images are similar enough to share some key-point features. For example an original image will likely have partial matching for its crops.
`pagesWithMatchingImages[]`	`object (`**WebPage** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#WebPage)`)` Web pages containing the matching images from the Internet.
`visuallySimilarImages[]`	`object (`**WebImage** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#WebImage)`)` The visually similar image results.

Fields	
`bestGuessLabels[]`	`object (WebLabel` (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#WebLabel)) The service's best guess as to the topic of the request image. Inferred from similar images on the open web.

WebEntity

Entity deduced from similar images on the Internet.

JSON representation

```
{
  "entityId": string,
  "score": number,
  "description": string
}
```

Fields	
`entityId`	`string` Opaque entity ID.
`score`	`number` Overall relevancy score for the entity. Not normalized and not comparable across different image queries.
`description`	`string` Canonical description of the entity, in English.

WebImage

Metadata for online images.

JSON representation

```
{
  "url": string,
  "score": number
}
```

Fields	
`url`	`string` The result image URL.
`score`	`number` (Deprecated) Overall relevancy score for the image.

WebPage

Metadata for web pages.

JSON representation

```
{
  "url": string,
  "score": number,
  "pageTitle": string,
  "fullMatchingImages": [
    {
      object (WebImage (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annc
    }
  ],
  "partialMatchingImages": [
    {
      object (WebImage (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annc
    }
  ]
}
```

Fields	
`url`	`string` The result web page URL.
`score`	`number` (Deprecated) Overall relevancy score for the web page.
`pageTitle`	`string` Title for the web page, may contain HTML markups.
`fullMatchingImages[]`	`object (`**WebImage** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#WebImage) `)` Fully matching images on the page. Can include resized copies of the query image.
`partialMatchingImages[]`	`object (`**WebImage** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#WebImage) `)` Partial matching images on the page. Those images are similar enough to share some key-point features. For example an original image will likely have partial matching for its crops.

WebLabel

Label to provide extra metadata for the web detection.

JSON representation

```
{
  "label": string,
  "languageCode": string
}
```

Fields	
`label`	`string` Label for extra metadata.
`languageCode`	`string` The BCP-47 language code for **`label`**, such as "en-US" or "sr-Latn". For more information, see http://www.unicode.org/reports/tr35/#Unicode_locale_identifier (http://www.unicode.org/reports/tr35/#Unicode_locale_identifier).

ProductSearchResults

Results for a product search request.

JSON representation

```
{
  "indexTime": string,
  "results": [
    {
      object (Result (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annota
    }
  ],
  "productGroupedResults": [
    {
      object (GroupedResult (https://cloud.google.com/vision/product-search/docs/reference/rest/v1
    }
  ]
}
```

Fields

Fields	
`indexTime`	`string (Timestamp` (https://developers.google.com/protocol-buffers/docs/reference/google.protobuf#google.protobuf.Timestamp) `format)` Timestamp of the index which provided these results. Products added to the product set and products removed from the product set after this time are not reflected in the current results. A timestamp in RFC3339 UTC "Zulu" format, accurate to nanoseconds. Example: "`2014-10-02T15:01:23.045123456Z`".
`results[]`	`object (Result` (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Result) `)` List of results, one for each product match.
`productGroupedResults[]`	`object (GroupedResult` (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#GroupedResult) `)` List of results grouped by products detected in the query image. Each entry corresponds to one bounding polygon in the query image, and contains the matching products specific to that region. There may be duplicate product matches in the union of all the per-product results.

Result

Information about a product.

JSON representation

JSON representation

```
{
  "product": {
    object (Product (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.
  },
  "score": number,
  "image": string
}
```

Fields	
`product`	`object (Product (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products#Product) )` The Product.
`score`	`number` A confidence level on the match, ranging from 0 (no confidence) to 1 (full confidence).
`image`	`string` The resource name of the image from the product that is the closest match to the query.

GroupedResult

Information about the products similar to a single product in a query image.

JSON representation

JSON representation

```
{
  "boundingPoly": {
    object (BoundingPoly (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/pr
  },
  "results": [
    {
      object (Result (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/Annota
    }
  ],
  "objectAnnotations": [
    {
      object (ObjectAnnotation (https://cloud.google.com/vision/product-search/docs/reference/res
    }
  ]
}
```

Fields

boundingPoly	**object (BoundingPoly** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#BoundingPoly) **)** The bounding polygon around the product detected in the query image.
results[]	**object (Result** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#Result) **)** List of results, one for each product match.
objectAnnotations[]	**object (ObjectAnnotation** (https://cloud.google.com/vision/product-search/docs/reference/rest/v1/AnnotateImageResponse#ObjectAnnotation) **)** List of generic predictions for the object in the bounding box.

ObjectAnnotation

Prediction for what the object in the bounding box is.

JSON representation

```
{
  "mid": string,
  "languageCode": string,
  "name": string,
  "score": number
}
```

Fields	
`mid`	`string` Object ID that should align with EntityAnnotation mid.
`languageCode`	`string` The BCP-47 language code, such as "en-US" or "sr-Latn". For more information, see http://www.unicode.org/reports/tr35/#Unicode_locale_identifier (http://www.unicode.org/reports/tr35/#Unicode_locale_identifier).
`name`	`string` Object name, expressed in its **`languageCode`** language.
`score`	`number` Score of the result. Range [0, 1].

ImageAnnotationContext

If an image was produced from a file (e.g. a PDF), this message gives information about the source of that image.

JSON representation

JSON representation

```
{
  "uri": string,
  "pageNumber": number
}
```

Fields

`uri`	`string` The URI of the file used to produce the image.
`pageNumber`	`number` If the file was a PDF or TIFF, this field gives the page number within the file used to produce the image.