

Intelligence artificielle

- [Vertex AI](#)
- [Vertex AI Vision](#)

Vertex AI

Vertex AI PaLM API :

```
MODEL_ID="text-bison"
```

```
PROJECT_ID=${DEVSHHELL_PROJECT_ID}
```

```
curl \
```

```
-X POST \
```

```
-H "Authorization: Bearer $(gcloud auth print-access-token)" \
```

```
-H "Content-Type: application/json" \
```

```
https://us-central1-aiplatform.googleapis.com/v1/projects/${PROJECT_ID}/locations/us-central1/publishers/google/models/${MODEL_ID}:predict -d \
```

```
${
```

```
  "instances": [
```

```
    { "prompt": "Provide a summary with about two sentences for the following article:
```

```
The efficient-market hypothesis (EMH) is a hypothesis in financial \
economics that states that asset prices reflect all available \
information. A direct implication is that it is impossible to \
\\\"beat the market\\\" consistently on a risk-adjusted basis since market \
prices should only react to new information. Because the EMH is \
formulated in terms of risk adjustment, it only makes testable \
predictions when coupled with a particular model of risk. As a \
result, research in financial economics since at least the 1990s has \
focused on market anomalies, that is, deviations from specific \
models of risk. The idea that financial market returns are difficult \
to predict goes back to Bachelier, Mandelbrot, and Samuelson, but \
is closely associated with Eugene Fama, in part due to his \
influential 1970 review of the theoretical and empirical research. \
The EMH provides the basic logic for modern risk-based theories of \
asset prices, and frameworks such as consumption-based asset pricing \
and intermediary asset pricing can be thought of as the combination \
of a model of risk with the EMH. Many decades of empirical research \
on return predictability has found mixed evidence. Research in the \
1950s and 1960s often found a lack of predictability (e.g. Ball and \
Brown 1968; Fama, Fisher, Jensen, and Roll 1969), yet the \
```

1980s-2000s saw an explosion of discovered return predictors (e.g. \ Rosenberg, Reid, and Lanstein 1985; Campbell and Shiller 1988; \ Jegadeesh and Titman 1993). Since the 2010s, studies have often \ found that return predictability has become more elusive, as \ predictability fails to work out-of-sample (Goyal and Welch 2008), \ or has been weakened by advances in trading technology and investor \ learning (Chordia, Subrahmanyam, and Tong 2014; McLean and Pontiff \ 2016; Martineau 2021).

Summary:

```
"}  
  ],  
  "parameters": {  
    "temperature": 0.2,  
    "maxOutputTokens": 256,  
    "topK": 40,  
    "topP": 0.95  
  }  
}'
```

Réponse :

```
{  
  "predictions": [  
    {  
      "citationMetadata": {  
        "citations": []  
      },  
      "safetyAttributes": {  
        "scores": [  
          1,  
          0.1,  
          0.1  
        ],  
        "blocked": false,  
        "categories": [  
          "Finance",  
          "Insult",
```

```
"Sexual"
],
"safetyRatings": [
  {
    "category": "Dangerous Content",
    "severityScore": 0,
    "probabilityScore": 0.1,
    "severity": "NEGLIGIBLE"
  },
  {
    "category": "Harassment",
    "severityScore": 0.1,
    "severity": "NEGLIGIBLE",
    "probabilityScore": 0.1
  },
  {
    "category": "Hate Speech",
    "severity": "NEGLIGIBLE",
    "probabilityScore": 0,
    "severityScore": 0.1
  },
  {
    "severity": "NEGLIGIBLE",
    "severityScore": 0.1,
    "probabilityScore": 0.1,
    "category": "Sexually Explicit"
  }
]
},
```

```
  "content": " The efficient-market hypothesis (EMH) states that asset prices reflect all available information, making it impossible to consistently outperform the market on a risk-adjusted basis. While some studies have found evidence of return predictability, recent research suggests that predictability has become more elusive due to advances in trading technology and investor learning."
```

```
  }
```

```
],
```

```
"metadata": {
  "tokenMetadata": {
    "inputTokenCount": {
      "totalBillableCharacters": 1579,
      "totalTokens": 500
```

```
},  
"outputTokenCount": {  
  "totalTokens": 62,  
  "totalBillableCharacters": 327  
}  
}  
}  
}
```

Generative AI Studio

Google Cloud

qwiklabs-gcp-00-22b78ce5dc09

Vertex AI

Search

1

?

:

S

Vertex AI

Model Garden

Pipelines

NOTEBOOKS

Colab Enterprise

Workbench

GENERATIVE AI STUDIO

Overview

Language

Vision

Speech

DATA

Feature Store

Datasets

Labeling tasks

MODEL DEVELOPMENT

Training

Experiments

Metadata

Marketplace

<|

Untitled prompt

FREEFORM

STRUCTURED

SAVE

VIEW CODE

Prompt

CLEAR PROMPT

What is a prompt gallery?

Response

Markdown

A prompt gallery is a collection of prompts that can be used to generate text, images, or other types of content. Prompts can be anything from a single word or phrase to a complex set of instructions. They can be used to generate creative content, such as stories, poems, or artwork, or to generate informative content, such as articles, reports, or presentations.

Prompt galleries can be found online or in books. They can also be created by individuals for their own personal use. There are many different types of prompt galleries, each with its own unique focus. Some popular types of prompt galleries include:

Creative writing prompts: These prompts are designed to inspire writers to come up with new ideas and stories. They can be anything from a single word or phrase to a complex set of instructions.

Art prompts: These prompts are designed to inspire artists to create new works of art. They can be anything from a simple suggestion to a detailed description of a scene.

Informative prompts: These prompts are designed to help people learn new things. They can be anything from a question to a request for information.

Prompt galleries can be a valuable resource for anyone who wants to generate new content. They can help to spark creativity, provide inspiration, and save time.

We want your [feedback](#).

Some locations have been restricted due to a policy set by your organization. [Learn more about restricting locations](#).

Region

us-central1 (Iowa)

Model

text-bison (latest)

Temperature

0.2

Token limit

1024

Advanced

SUBMIT

RESET PARAMETERS

REPORT INAPPROPRIATE RESPONSES

Content processed through Vertex AI is assessed against a list of safety attributes. Confidence scores for these attributes are returned in API responses [but are not visible in the UI](#).

←

Untitled prompt

FREEFORMSTRUCTURED

▼ Prompt

Write a prompt and then click Submit

A prompt is an input text that is used to guide the model's output.

▼ Response

Markdown

The model will generate a response after you click Submit

Model may display inaccurate or offensive information that doesn't represent Google's view. Not all languages are supported. [Learn more.](#)

SAVEVIEW CODE

We want your [feedback.](#)

Model

text-bison (latest)

Choice of Model to provide a response to your prompt

Temperature

00.21

Creative allowance for the model in generating the response

Advanced

Toggle "Advanced"

Token limit

110242048

Desired length of the response*

Top-K

140

Number of the most probable tokens to consider as the next token

Top-P

00.81

Threshold probability for a token be selected as the next token

Max responses

18

Max number of responses generated from prompt

Add stop sequence

Press Enter after each sequence

Stop when sequence is seen, up to five sequences

Streaming responses

Print responses as they're generated

Safety filter threshold

Block few

Adjusts how likely you are to see responses that could be harmful.

SUBMITRESET PARAMETERS

*A token is a discrete unit of data that represents a word, punctuation mark, number, or other symbol.

Vertex AI Vision

Exemple d'une analyse d'une image PAR LABEL DETECTION :

Image source :



Requette :

```
{
  "requests": [
    {
      "image": {
        "source": {
          "gcsImageUri": "gs://qwiklabs-gcp-02-148f0046b176-bucket/donuts.png"
        }
      },
    },
    "features": [
      {
        "type": "WEB_DETECTION",
        "maxResults": 10
      }
    ]
  ]
}
```

```
}
```

```
curl -s -X POST -H "Content-Type: application/json" --data-binary @request.json  
https://vision.googleapis.com/v1/images:annotate?key=${API_KEY}
```

Réponse :

```
{  
  "responses": [  
    {  
      "labelAnnotations": [  
        {  
          "mid": "/m/02wbm",  
          "description": "Food",  
          "score": 0.986098,  
          "topicality": 0.986098  
        },  
        {  
          "mid": "/m/01wydv",  
          "description": "Beignet",  
          "score": 0.9145899,  
          "topicality": 0.9145899  
        },  
        {  
          "mid": "/m/07xgrh",  
          "description": "Ingredient",  
          "score": 0.8922239,  
          "topicality": 0.8922239  
        },  
        {  
          "mid": "/m/01dk8s",  
          "description": "Powdered sugar",  
          "score": 0.855484,  
          "topicality": 0.855484  
        },  
        {  
          "mid": "/m/0p57p",  
          "description": "Recipe",
```



```
"score": 0.84780663,
"topicality": 0.84780663
},
{
  "mid": "/m/01ykh",
  "description": "Cuisine",
  "score": 0.83784735,
  "topicality": 0.83784735
},
{
  "mid": "/m/06gd3r",
  "description": "Angel wings",
  "score": 0.8157256,
  "topicality": 0.8157256
},
{
  "mid": "/m/02q08p0",
  "description": "Dish",
  "score": 0.80321497,
  "topicality": 0.80321497
},
{
  "mid": "/m/052lw6",
  "description": "Baked goods",
  "score": 0.79568243,
  "topicality": 0.79568243
},
{
  "mid": "/m/06x4c",
  "description": "Sugar",
  "score": 0.7846247,
  "topicality": 0.7846247
}
]
}
]
```

Exemple d'une analyse d'une image PAR WEB DETECTION :

```
{
  "responses": [
    {
      "webDetection": {
        "webEntities": [
          {
            "entityId": "/m/01wydv",
            "score": 0.72217673,
            "description": "Beignet"
          },
          {
            "entityId": "/m/01dk8s",
            "score": 0.63628644,
            "description": "Icing Sugar"
          },
          {
            "entityId": "/m/02wvn_6",
            "score": 0.49952897,
            "description": "Ricciarelli"
          },
          {
            "entityId": "/g/11fmgrs4qm",
            "score": 0.385,
            "description": "Vision AI"
          },
          {
            "entityId": "/m/0jy4k",
            "score": 0.3813,
            "description": "Doughnut"
          },
          {
            "entityId": "/t/24bjj59_jbj9f",
            "score": 0.3775
          },
          {
            "entityId": "/m/045c7b",
            "score": 0.3775,
            "description": "Google"
          },
          {
```

```
"entityId": "/m/0105pbj4",
"score": 0.3433,
"description": "Google Cloud Platform"
},
{
  "entityId": "/m/0z5n",
  "score": 0.3351,
  "description": "API"
},
{
  "entityId": "/m/02y_9m3",
  "score": 0.3168,
  "description": "Cloud computing"
}
],
"fullMatchingImages": [
  {
    "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdkkVi8nj4pPs%3D"
  },
  {
    "url": "https://miro.medium.com/v2/resize:fit:1400/1*JSX2yNORAAOxdGoU17c4_A.png"
  }
],
"pagesWithMatchingImages": [
  {
    "url": "https://www.cloudskillsboost.google/focuses/1841?locale=it&parent=catalog",
    "pageTitle": "Detect Labels, Faces, and Landmarks in Images with the Cloud ...",
    "fullMatchingImages": [
      {
        "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdkkVi8nj4pPs%3D"
      }
    ]
  },
  {
    "url": "https://www.cloudskillsboost.google/focuses/1841?locale=de&parent=catalog",
    "pageTitle": "Detect Labels, Faces, and Landmarks in Images with the Cloud ...",
    "fullMatchingImages": [
      {
        "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdkkVi8nj4pPs%3D"
      }
    ]
  }
]
```

```
]
},
{
  "url": "https://www.cloudskillsboost.google/focuses/1841?locale=fr_CA&parent=catalog",
  "pageTitle": "Detect Labels, Faces, and Landmarks in Images with the Cloud ...",
  "fullMatchingImages": [
    {
      "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdkVi8nj4pPs%3D"
    }
  ]
},
{
  "url": "https://www.cloudskillsboost.google/focuses/1841?locale=uk&parent=catalog",
  "pageTitle": "Detect Labels, Faces, and Landmarks in Images with the Cloud ...",
  "fullMatchingImages": [
    {
      "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdkVi8nj4pPs%3D"
    }
  ]
},
{
  "url": "https://www.cloudskillsboost.google/focuses/1841?locale=pt_PT&parent=catalog",
  "pageTitle": "Detect Labels, Faces, and Landmarks in Images with the Cloud ...",
  "fullMatchingImages": [
    {
      "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdkVi8nj4pPs%3D"
    }
  ]
},
{
  "url": "https://www.cloudskillsboost.google/focuses/1841?locale=zh_TW&parent=catalog",
  "pageTitle": "Detect Labels, Faces, and Landmarks in Images with the Cloud ...",
  "fullMatchingImages": [
    {
      "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdkVi8nj4pPs%3D"
    }
  ]
},
{
  "url": "https://www.cloudskillsboost.google/focuses/1841?parent=catalog",
```

```

    "pageTitle": "Detect Labels, Faces, and Landmarks in Images with the Cloud ...",
    "fullMatchingImages": [
      {
        "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdkVi8nj4pPs%3D"
      }
    ],
  },
  {
    "url": "https://github.com/ratokeshi/Cloud-Shell-GSP037-Detect-Labels-Faces-and-Landmarks-in-Images-with-the-Cloud-Vision-API/blob/master/tutorial.md",
    "pageTitle": "GSP037 -- Tutorial: Detect Labels, Faces, and Landmarks in Images ...",
    "fullMatchingImages": [
      {
        "url":
"https://camo.githubusercontent.com/de4a92596dd95e3a6e3486783113543c0b0ad077242450b605fdc8d5b3a5a4b4/68747470733a2f2f63646e2e7177696b6c6162732e636f6d2f5634506d455549377958644b7079744c4e5271775625324279474871796d2532426668646b745669386e6a34705073253344"
      }
    ],
  },
  {
    "url": "https://github.com/CCH0124/qwiklab/blob/master/Machine%20Learning%20APIs/2020-09-03-cloud-vision-api.md",
    "pageTitle": "2020-09-03-cloud-vision-api.md - GitHub",
    "fullMatchingImages": [
      {
        "url": "https://developers.google.com/codelabs/cloud-vision-intro/img/b05d9534e547f5ee.jpeg"
      }
    ],
  },
  {
    "url": "https://www.cloudskillsboost.google/focuses/1841?locale=es&parent=catalog",
    "pageTitle": "Detecte etiquetas, rostros y puntos de referencia en las imágenes ...",
    "fullMatchingImages": [
      {
        "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdkVi8nj4pPs%3D"
      }
    ],
  },
],

```

```
"visuallySimilarImages": [  
  {  
    "url": "https://cdn.qwiklabs.com/S%2FkNFTtoGu3UCBBin8FTTTupTpksj6PBcKpa1ZyPqwNk%3D"  
  },  
  {  
    "url": "https://img-global.cpcdn.com/recipes/a66a9a6fc2696648/680x482cq70/mutzenmandeln-german-  
fritters-recipe-main-photo.jpg"  
  },  
  {  
    "url": "https://cdn.qwiklabs.com/vgWkDHchgJbOs4QsNHnrTHKs5%2Fo1rkQWFxMCLtHmrPo%3D"  
  },  
  {  
    "url": "https://lp-cms-production.imgix.net/features/2017/11/GettyImages-138513933-  
c96bcb32cf5f.jpg?auto=format&q=75&w=1920"  
  },  
  {  
    "url": "https://cdn.qwiklabs.com/w%2BfLMzkJxWN1WummHFhBLmkw5eFFSMFfQUiN6bwAwFA%3D"  
  },  
  {  
    "url":  
"https://img.cdn4dd.com/p/fit=cover,width=1200,height=1200,format=auto,quality=90/media/photosV2/9836e  
6c1-4775-4f05-bd5d-7aa9672a252f-retina-large.JPG"  
  },  
  {  
    "url":  
"https://images.sbs.com.au/dims4/default/f352d99/2147483647/strip/true/crop/1200x675+0+113/resize/1280x7  
20!/quality/90/?url=http%3A%2F%2Fsbs-au-  
brightspot.s3.amazonaws.com%2Fdrupal%2Ffood%2Fpublic%2Fgettyimages-638180210.jpg"  
  },  
  {  
    "url": "https://www.catburglardoughco.co.uk/cdn/shop/files/C68A5692-5039-4486-BEA4-  
B64A758B558F.jpg?v=1699803372&width=533"  
  },  
  {  
    "url": "https://lh3.googleusercontent.com/eaLMslkaROuaXqJvLGlg-2QdrK-  
K9bUfSRA_fIRP0UjnYKY_ltzFNdsEf4Ia3ssRk0ieq2cBIPzNXLSqAnr1yT-mirIt7prvbJ8Jo2P=w1200-h630-p-rj-l75"  
  },  
  {  
    "url": "https://lookaside.instagram.com/seo/google_widget/crawler/?media_id=3233064463578091407"  
  }  
]
```

```

],
"bestGuessLabels": [
  {
    "label": "powdered sugar"
  }
]
}
}
]
}

```

Exemple d'une analyse d'une image PAR LABEL DETECTION :



Fichier de requette :

```

{
  "requests": [
    {
      "image": {
        "source": {

```

```
    "gcslImageUri": "gs://qwiklabs-gcp-02-148f0046b176-bucket/selfie.png"
  },
  "features": [
    {
      "type": "FACE_DETECTION"
    },
    {
      "type": "LANDMARK_DETECTION"
    }
  ]
}
```

Commande :

```
curl -s -X POST -H "Content-Type: application/json" --data-binary @request.json
https://vision.googleapis.com/v1/images:annotate?key=${API_KEY}
```

Résultat :

```
{
  "responses": [
    {
      "faceAnnotations": [
        {
          "boundingPoly": {
            "vertices": [
              {
                "x": 668,
                "y": 321
              },
              {
                "x": 759,
                "y": 321
              },
              {
                "x": 759,
                "y": 428
              }
            ]
          }
        }
      ]
    }
  ]
}
```



```
    },
    {
      "x": 668,
      "y": 428
    }
  ]
},
"fdBoundingPoly": {
  "vertices": [
    {
      "x": 675,
      "y": 342
    },
    {
      "x": 752,
      "y": 342
    },
    {
      "x": 752,
      "y": 418
    },
    {
      "x": 675,
      "y": 418
    }
  ]
},
"landmarks": [
  {
    "type": "LEFT_EYE",
    "position": {
      "x": 692.43866,
      "y": 373.3567,
      "z": 3.373623e-05
    }
  },
  {
    "type": "RIGHT_EYE",
    "position": {
      "x": 717.378,
```

```
"y": 372.80283,  
"z": -10.198742  
}  
},  
{  
  "type": "LEFT_OF_LEFT_EYEBROW",  
  "position": {  
    "x": 685.4162,  
    "y": 366.67938,  
    "z": 5.713165  
  }  
},  
{  
  "type": "RIGHT_OF_LEFT_EYEBROW",  
  "position": {  
    "x": 697.2991,  
    "y": 369.66382,  
    "z": -7.347992  
  }  
},  
{  
  "type": "LEFT_OF_RIGHT_EYEBROW",  
  "position": {  
    "x": 708.3684,  
    "y": 366.63693,  
    "z": -11.891495  
  }  
},  
{  
  "type": "RIGHT_OF_RIGHT_EYEBROW",  
  "position": {  
    "x": 726.387,  
    "y": 366.9591,  
    "z": -11.319866  
  }  
},  
{  
  "type": "MIDPOINT_BETWEEN_EYES",  
  "position": {  
    "x": 701.6046,
```

```
"y": 373.41864,  
  "z": -9.908357  
}  
},  
{  
  "type": "NOSE_TIP",  
  "position": {  
    "x": 697.15344,  
    "y": 388.13058,  
    "z": -16.976954  
  }  
},  
{  
  "type": "UPPER_LIP",  
  "position": {  
    "x": 701.7274,  
    "y": 398.90063,  
    "z": -11.995066  
  }  
},  
{  
  "type": "LOWER_LIP",  
  "position": {  
    "x": 699.92926,  
    "y": 405.88278,  
    "z": -10.244858  
  }  
},  
{  
  "type": "MOUTH_LEFT",  
  "position": {  
    "x": 690.5546,  
    "y": 401.1665,  
    "z": -0.62963176  
  }  
},  
{  
  "type": "MOUTH_RIGHT",  
  "position": {  
    "x": 716.9991,
```

```
"y": 400.65125,  
"z": -10.09579  
}  
,  
{  
  "type": "MOUTH_CENTER",  
  "position": {  
    "x": 700.99243,  
    "y": 402.0346,  
    "z": -10.156912  
  }  
,  
{  
  "type": "NOSE_BOTTOM_RIGHT",  
  "position": {  
    "x": 709.8808,  
    "y": 390.7631,  
    "z": -11.243357  
  }  
,  
{  
  "type": "NOSE_BOTTOM_LEFT",  
  "position": {  
    "x": 696.3279,  
    "y": 391.8381,  
    "z": -5.7694793  
  }  
,  
{  
  "type": "NOSE_BOTTOM_CENTER",  
  "position": {  
    "x": 701.84155,  
    "y": 393.0317,  
    "z": -11.99778  
  }  
,  
{  
  "type": "LEFT_EYE_TOP_BOUNDARY",  
  "position": {  
    "x": 691.84955,
```

```
"y": 370.639,  
"z": -1.1958665  
}  
,  
{  
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