GPT for Excel – Created by Bjorn Austraat

General Setup

Linked in

For the macros on this worksheet to function properly, please follow the steps outlined below.
Please note that this XLSM file only works on Windows.

Obtain an OpenAI API Key

You must obtain your own OpenAI API key for the macros in this workbook to function properly.
For instructions on procuring an OpenAI API key, please see
https://www.windowscentral.com/software-apps/how-to-get-an-openai-api-key

After receiving the OpenAI API key, insert it in the API Key cell on the "Configuration" tab

API Key	
	<-- Please insert OpenAI API key here

The API Key field will change background color to blue

API Key
sk-e2610Wnqg4WtE4t7ZYJuT3BlbkFJSARLQ6890i***********

Model selection

Select either gpt-3.5-turbo or gpt-4. Note the considerable cost differences for prompt and completion tokens. The cost values are automatically populated.

Log data

If you'd like to keep an eye on costs, set "Log Data" to "Yes" in the "Configuration" tab. This will trigger the generation of a text file called "ExcelForGPTLog.txt" in the same folder as the macro workbook to log the time, prompt, completion, total tokens and cost of each GPT API call.

Log data	
Yes	▼
Yes	
No	

GPTFillRange() Prompt Configuration for One-shot / Few-shot / Multi-shot learning

Modify the values in this section as needed. The default values perform quite well for most one-shot/few-shot/multi-shot learning tasks, so please only make changes to these values if the defaults do not deliver the desired results.

Activating macro content

Depending on the delivery mode, you may have to accept one or more warnings about potentially unsafe content, i.e. the macro code in this workbook
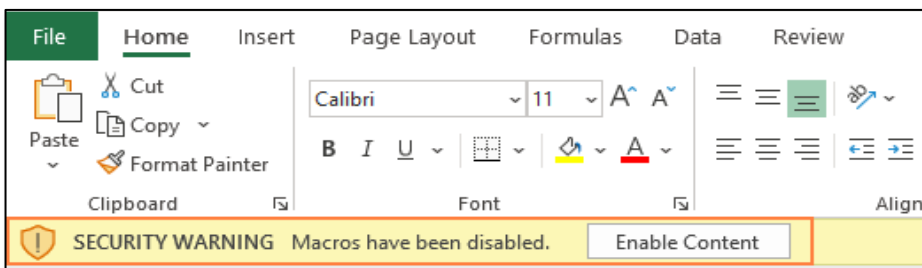
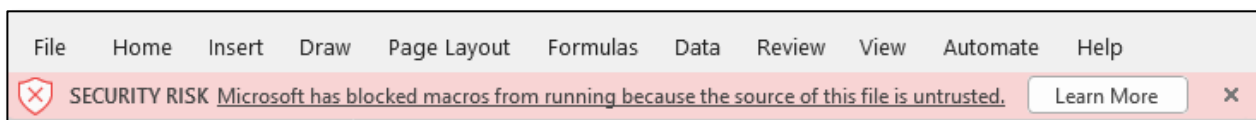**If you encounter the Microsoft Excel Security Notice**
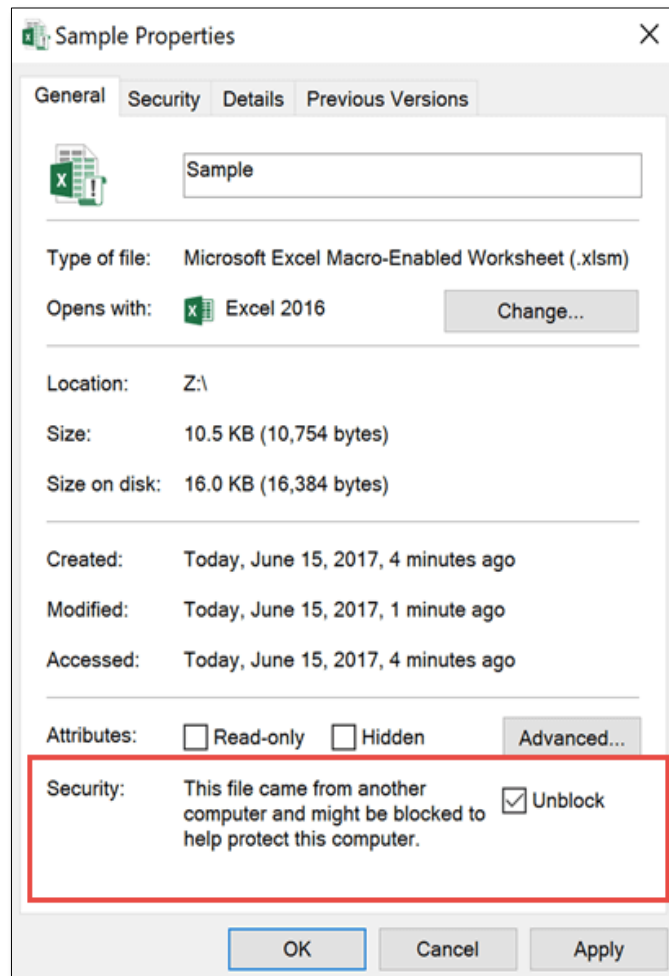Select "Enable Macros"
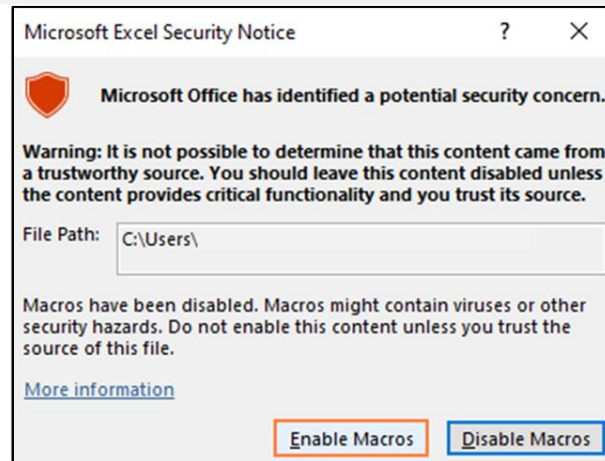
When opening the workbook

Select "Enable Content"

If you encounter the "Microsoft has blocked macros" issue

Select the properties of the xlsm file and select "Unblock"

GPT(InputPrompt) - Simple Example

This function simply submits your prompt to GPT and returns the result based on the wording of the input prompt and the temperature (i.e. the amount of creativity)

Step-by-Step Instructions

Create a new worksheet. Enter the desired prompt text into a cell. Optionally, you can enter the text directly into the cell by typing it into the formula like =GPT("Here is my prompt"). I recommend keeping the text in a separate cell as shown below.

As the GPT() and GPTFillRange() functions are "auto-calculated" during many common spreadsheet activities, you may want to disable Automatic Calculations in the Formulas ribbon to avoid potentially costly repeated OpenAI API calls.


```
Create a three paragraph summary of a science fiction novel
=GPT(C3)
```
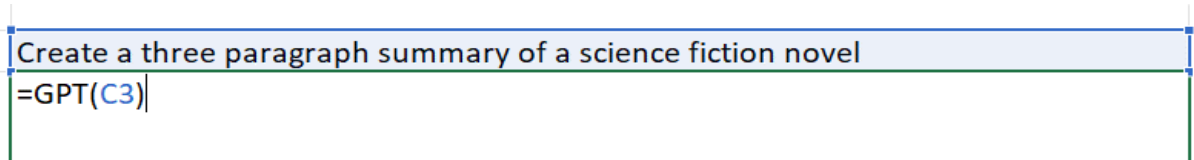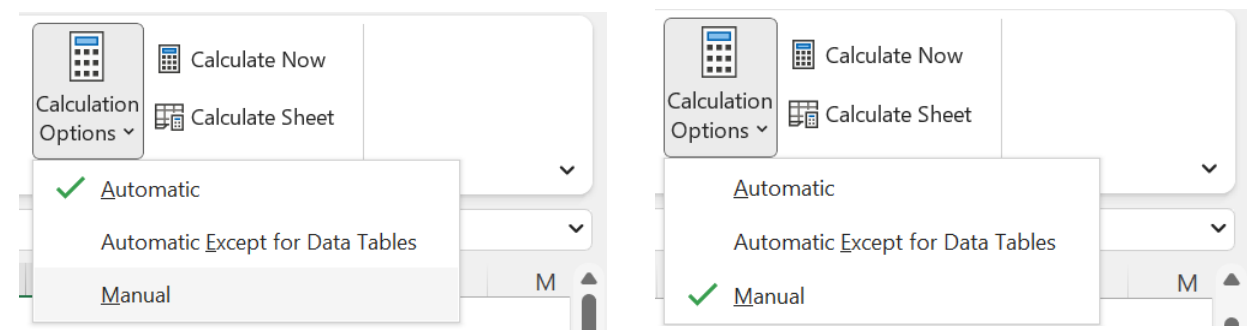
Upon hitting "Enter," the prompt is submitted to GPT. Depending on system load and complexity of the task, response times may vary from several seconds to up to a minute. **You may see a "Not responding" message, but the system is still processing the request.**

GPT for Excel (Not Responding)

Processing via OpenAI GPT model. This can take up to 60 seconds. Please wait...
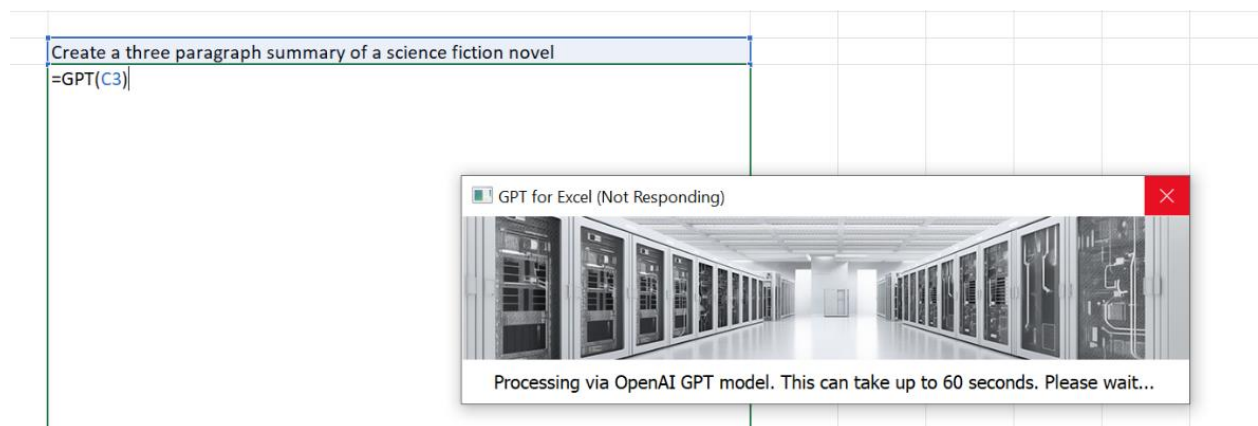
Once the result is returned from GPT, the output is displayed in the cell containing the formula.

Create a three paragraph summary of a science fiction novel

"The Three-Body Problem" by Liu Cixin is a science fiction novel that explores the idea of humanity's first contact with an alien civilization. The story takes place in China during the Cultural Revolution and follows the protagonist, Ye Wenjie, a physicist who is sent to a remote military base to work on a top-secret project. There, she discovers a way to send messages to the stars, and she decides to send a message to the Trisolaran civilization, a species living in a nearby star system.

The Trisolarans, having gone through a series of environmental catastrophes, are on the brink of extinction. They receive the message and decide to invade Earth, hoping to make it their new home. The story then shifts to present-day, where we follow the protagonist, Wang Miao, a nanomaterials researcher who is brought into a secret society called the Frontiers of Science. The society is investigating a series of mysterious suicides among scientists and discovers that they are all related to a virtual reality game called "Three-Body."

As Wang delves deeper into the game, he uncovers a conspiracy that involves the Trisolarans and their plan to take over Earth. The novel depicts a struggle between two civilizations and explores themes such as the limits of human understanding, the nature of consciousness, and the role of science in society. It is a thought-provoking and imaginative novel that will keep readers engaged until the very end.

GPT(InputPrompt) - Complex Example

Concatenated prompts to add flexibility and power to GPT output generation

Step-by-Step Instructions

To create bespoke GPT results for a variety of inputs, arrange individual items into a table and use either `&` syntax or the `CONCAT()` function to create the desired input prompt for `GPT()`

Name	Favorite team	Favorite food	Message
John	Raiders	Steak	=gpt("Create a short one paragraph invitation for " & C5 & " for a get together that involves either " & D5 & " or a dinner featuring " & E5)
Joanne	Real Madrid	Sushi	

By filling the `GPT()` formula down the "Message" column, GPT creates a bespoke message for the respective inputs on each row.

Name	Favorite team	Favorite food	Message
John	Raiders	Steak	Dear John, I hope this message finds you well. I would like to invite you to a get-together that involves either watching the Raiders game or enjoying a delicious steak dinner. It would be great to catch up over some good food and drinks while cheering on our favorite football team. Let me know if you're available and interested, and I'll send you the details. Looking forward to seeing you soon!
Joanne	Real Madrid	Sushi	Hey Joanne! How have you been? We're planning a get-together soon and we'd love for you to join us. We're thinking of either watching a Real Madrid game or having a dinner featuring some delicious sushi. Let us know which one you're more interested in and we'll make sure to plan accordingly. Looking forward to catching up with you soon!

"#VALUE!" results

During times of high demand, individual calls to the OpenAI API may time out. If this happens, the macro will simply continue processing the next operation and will display "#VALUE!" in the impacted cell. To clear this error, re-run the operation in the cell showing the "#Value!" result.

GPTFillRange(TrainingRange as Range, InputRange as Range) - Simple example

Designed for "few-shot learning," this function allows you to easily submit prompt/response pairs to GPT to customize completions.

Structure

Training Range:

Contains prompt completions examples - can be simple completions, token extractions, sentiment analysis, etc.

Input Range:

Contains prompt inputs to be completed by GPT.

Fill Range:

Will be automatically populated by GPTFillRange()

A sunny day is great for	a walk in the park
Riding a bicycle is	a great way to exercise
Warm gloves	are essential when its cold outside
Clean water	prevents the spread of disease
Vitamin C supplements	can build a good immune system
Bright lights at night	can help you stay alert
Live plants in the home	
The capital of New Zealand	
Excessive exercise	
Advanced mathematics	
Saving every penny	
Working out every day	
Green plants in the home	

Training Range

Fill Range

Input Range

Step-by-Step Instructions

In the first empty cell immediately following the Training Range and immediately to the right of the Input Range, type `GPTFillRange(`

A sunny day is great for	a walk in the park
Riding a bicycle is	a great way to exercise
Warm gloves	are essential when its cold outside
Clean water	prevents the spread of disease
Vitamin C supplements	can build a good immune system
Bright lights at night	can help you stay alert
Live plants in the home	=GPT
The capital of New Zealand	GPT
Excessive exercise	GPT_Temperature
Advanced mathematics	GPTFillRange
Saving every penny	
Working out every day	
Green plants in the home	

Training Range

Fill Range

Input Range

Next, select the Training Range

A sunny day is great for	a walk in the park
Riding a bicycle is	a great way to exercise
Warm gloves	are essential when its cold outside
Clean water	prevents the spread of disease
Vitamin C supplements	can build a good immune system
Bright lights at night	can help you stay alert
Live plants in the home	=GPTFillRange(C3:D8

Training Range

Fill Range

| The capital of New Zealand |
| Excessive exercise |
| Advanced mathematics |
| Saving every penny |
| Working out every day |
| Green plants in the home |

Input Range

Type comma, and then select the Input Range

A sunny day is great for	a walk in the park
Riding a bicycle is	a great way to exercise
Warm gloves	are essential when its cold outside
Clean water	prevents the spread of disease
Vitamin C supplements	can build a good immune system
Bright lights at night	can help you stay alert
Live plants in the home	=GPTFillRange(C3:D8,C9:C15

Training Range

Fill Range

| The capital of New Zealand |
| Excessive exercise |
| Advanced mathematics |
| Saving every penny |
| Working out every day |
| Green plants in the home |

Input Range

Now complete the formula by typing a closing parenthesis. This will launch the GPT API calls and you will see a status dialog with the progress of the overall fill process.

A sunny day is great for	a walk in the park
Riding a bicycle is	a great way to exercise
Warm gloves	are essential when its cold outside
Clean water	prevents the spread of disease
Vitamin C supplements	can build a good immune system
Bright lights at night	can help you stay a
Live plants in the home	=GPTFillRange(C3:I

Training Range

| The capital of New Zealand |
| Excessive exercise |
| Advanced mathematics |
| Saving every penny |
| Working out every day |
| Green plants in the home |

GPT for Excel   ✕

Processing 4 of a total 7 items

Input Range

Upon successfully completing the fill process, the GPT-generated results will be displayed in the Fill Range.

A sunny day is great for	a walk in the park
Riding a bicycle is	a great way to exercise
Warm gloves	are essential when its cold outside
Clean water	prevents the spread of disease
Vitamin C supplements	can build a good immune system
Bright lights at night	can help you stay alert
Live plants in the home	can improve air quality.
The capital of New Zealand	is Wellington
Excessive exercise	can lead to injury or exhaustion
Advanced mathematics	can be challenging but rewarding to learn
Saving every penny	can add up to a lot of money over time.
Working out every day	can improve your physical and mental health.
Green plants in the home	can improve air quality and reduce stress levels

Training Range

Fill Range

Input Range

GPTFillRange(TrainingRange as Range, InputRange as Range) - Complex example

Designed for "few-shot learning," this function allows you to easily submit prompt inputs for sophisticated parsing. This example produces multi-columnar output

Training Range:

Contains prompt completions examples - in this case, contains tokens such as names, the type of action, and address.

Input Range:

Contains text to be analyzed by GPT.

Fill Range:

Will be automatically populated by GPTFillRange()

Mr. Adam Smith and Ms Joan Smith applied for a marriage license with their primary residence listed as 101 Main Street, Burlingame, CA	Mr. Adam Smith and Ms Joan Smith	101 Main Street, Burlingame, CA	Marriage License
A complaint was filed with Consolidated Light & Power about a sharp increase in water rates by Ms Indra Soon for her apartment at 4400 Alameda Ave, Palo Alto, CA	Ms Indra Soon	4400 Alameda Ave, Palo Alto, CA	Complaint - water rates
Sean Siu applied for a concert permit for a charitable concert to be held at the Main Square in downtown	Sean Siu	Main square downtown	Concert Permit - charitable concert
A petition for dissolution of LLC was submitted by Acorn LLC of 1300 Forrester Street, San Mateo, CA			
Mr. Michael Walter filed a building permit to add a garage to his single family home at 220 23rd Avenue in Brookville, CA			
NanceeTomlinson registered a new retail business selling convenience items within the Main Court Building			
A commendation was issued for Mrs. Joanna Smith for her long service as a school crossing guard at Central High School			

Training Range
Contains multiple elements to be extracted from column 1

Fill Range
To be populated with multiple corresponding items

Input Range
Contains additional text to be parsed

Enter the `GPTFillRange()` command into the appropriate cell covering the multi-columnar training range and the desired InputRange

Mr. Adam Smith and Ms Joan Smith applied for a marriage license with their primary residence listed as 101 Main Street, Burlingame, CA	Mr. Adam Smith and Ms Joan Smith	101 Main Street, Burlingame, CA	Marriage License
A complaint was filed with Consolidated Light & Power about a sharp increase in water rates by Ms Indra Soon for her apartment at 4400 Alameda Ave, Palo Alto, CA	Ms Indra Soon	4400 Alameda Ave, Palo Alto, CA	Complaint - water rates
Sean Siu applied for a concert permit for a charitable concert to be held at the Main Square in downtown	Sean Siu	Main square downtown	Concert Permit - charitable concert
A petition for dissolution of LLC was submitted by Acorn LLC of 1300 Forrester Street, San Mateo, CA	=GPTFillRange(C4:F6, C7:C10)		
Mr. Michael Walter filed a building permit to add a garage to his single family home at 220 23rd Avenue in Brookville, CA			
NanceeTomlinson registered a new retail business selling convenience items within the Main Court Building			
A commendation was issued for Mrs. Joanna Smith for her long service as a school crossing guard at Central High School			

Training Range
Contains multiple elements to be extracted from column 1

Fill Range
To be populated with multiple corresponding items

Input Range
Contains additional text to be parsed

After processing completes, the corresponding extracted values will be inserted into the appropriate columns

Mr. Adam Smith and Ms Joan Smith applied for a marriage license with their primary residence listed as 101 Main Street, Burlingame, CA	Mr. Adam Smith and Ms Joan Smith	101 Main Street, Burlingame, CA	Marriage License
A complaint was filed with Consolidated Light & Power about a sharp increase in water rates by Ms Indra Soon for her apartment at 4400 Alameda Ave, Palo Alto, CA	Ms Indra Soon	4400 Alameda Ave, Palo Alto, CA	Complaint - water rates
Sean Siu applied for a concert permit for a charitable concert to be held at the Main Square in downtown	Sean Siu	Main square downtown	Concert Permit - charitable concert
A petition for dissolution of LLC was submitted by Acorn LLC of 1300 Forrester Street, San Mateo, CA	Acorn LLC	1300 Forrester Street, San Mateo, CA	Petition - dissolution of LLC
Mr. Michael Walter filed a building permit to add a garage to his single family home at 220 23rd Avenue in Brookville, CA	Mr. Michael Walter	220 23rd Avenue, Brookville, CA	Building Permit - garage addition
NanceeTomlinson registered a new retail business selling convenience items within the Main Court Building	Nancee Tomlinson	Main Court Building	Retail Business Registration - convenience items
A commendation was issued for Mrs. Joanna Smith for her long service as a school crossing guard at Central High School	Mrs. Joanna Smith	Central High School	Commendation - long service as a school crossing guard

Training Range
Contains multiple elements to be extracted from column 1

Fill Range
To be populated with multiple corresponding items

Input Range
Contains additional text to be parsed