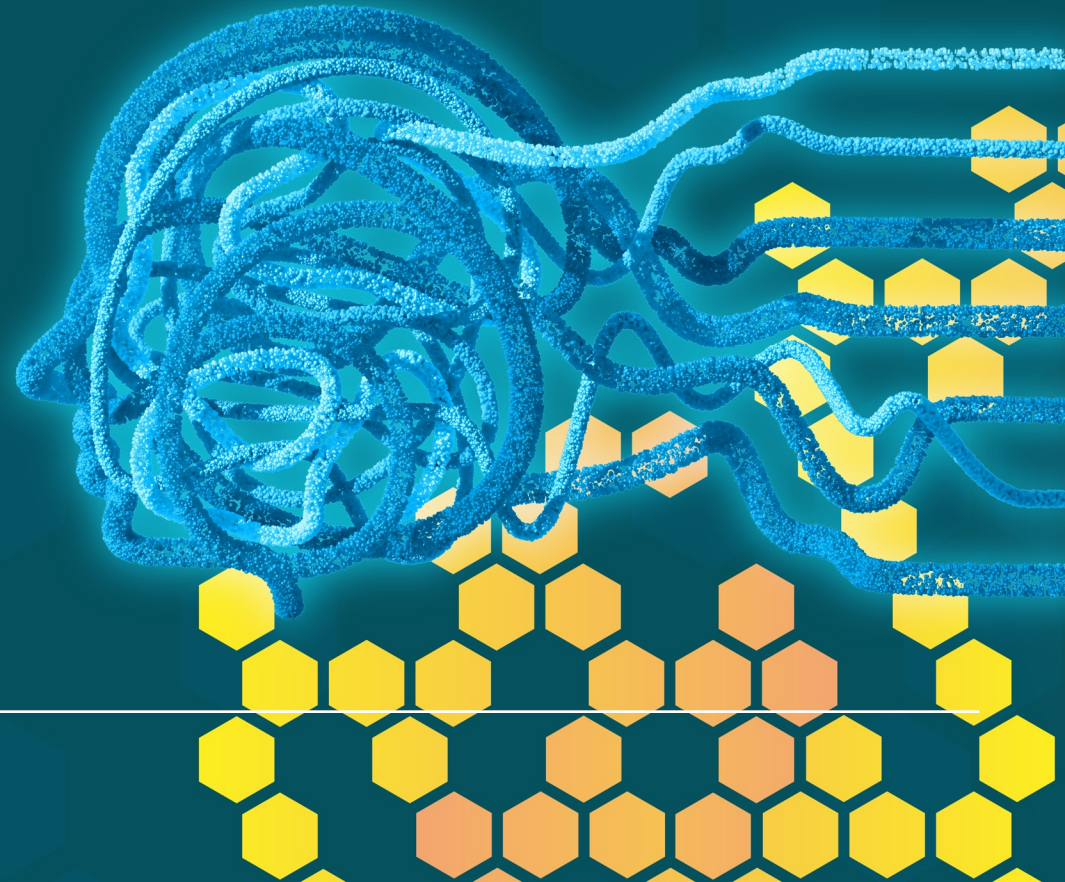

9 May 2024

The AI tools revolution:

Accelerating efficiency in data science

Nick Snellgrove
Shanna Tervoort-Mcleod



AI Tools

A polarising subject, for some!

In many domains: chatbots, insurance, health, medical, travel, finance, translations, writing assistants.... [Medium.com](#)

Generative AI

*“At a high level, generative AI refers to a category of AI models and tools designed to create **new content, such as text, images, videos, music, or code**. Generative AI uses a variety of techniques—including neural networks and deep learning algorithms—to **identify patterns and generate new outcomes** based on them.”* [Github Blog](#)



- 8. "Breaking Boundaries: Future-Ready Data Science with AI Tools"
- 9. "AI-Driven Horizons: Advanced Data Science Navigation with Powerful Tools"
- 10. "Unveiling Excellence: Mastering Data Science with Cutting-Edge AI Tools"



You

Can the title focus more on AI tools making your work more efficient



ChatGPT

Certainly! Here are 10 titles that emphasize the efficiency boost from AI tools:

- 1. "Efficiency Unleashed: Empowering Work with AI Tools in Data Science"
- 2. "Streamlining Success: Boosting Efficiency with AI Tools in Data Workflows"
- 3. "AI Tools Mastery: Enhancing Efficiency in Data Science Endeavors"
- 4. "Efficient Data Science: Navigating Success with Cutting-Edge AI Tools"
- 5. "Unlocking Efficiency: Transformative Impact of AI Tools in Data Work"
- 6. "AI Tools Revolution: Accelerating Efficiency in Data Science"
- 7. "Efficiency Amplified: Harnessing AI Tools for Data Science Excellence"
- 8. "Precision in Practice: AI Tools Shaping Efficient Data Science Workflows"
- 9. "Efficient Insights: Mastering Data Science with Advanced AI Tools"
- 10. "Strategic Efficiency: Achieving Success through AI Tools in Data Science"



Message ChatGPT...



Tools for data science / analytics

Level of abstraction

- Customer ► Waiter ► Chef ► Prep-cook

For R programming workflows

- GitHub Copilot in RStudio and Posit Workbench (since late September 2023)
- AI powered code utilities
- Online generative AI tools



AI and design

What's possible with AI?

- Create impossible images quickly
- Powerful tool to help designers and non-designers
- Lots of potential to assist in data visualisation



Limitations

- Unable to accurately produce data visualisation images at this stage
 - Can be useful for elements of web/dashboard design and infographics
- AI is not a designer, it is a design tool
 - Good for first draft design ideas
 - Quickly ideate
 - Alter existing materials
- Easy to get cool result, but hard to get specific results
 - Use a lot of context in your prompts

Prompt

kiwi



Image generated with Adobe Firefly

Prompt
kiwi bird



Image generated with Adobe Firefly

Prompt

kiwi, New Zealand flightless bird



Image generated with Adobe Firefly

Prompt

kiwi, New Zealand flightless bird, long beak

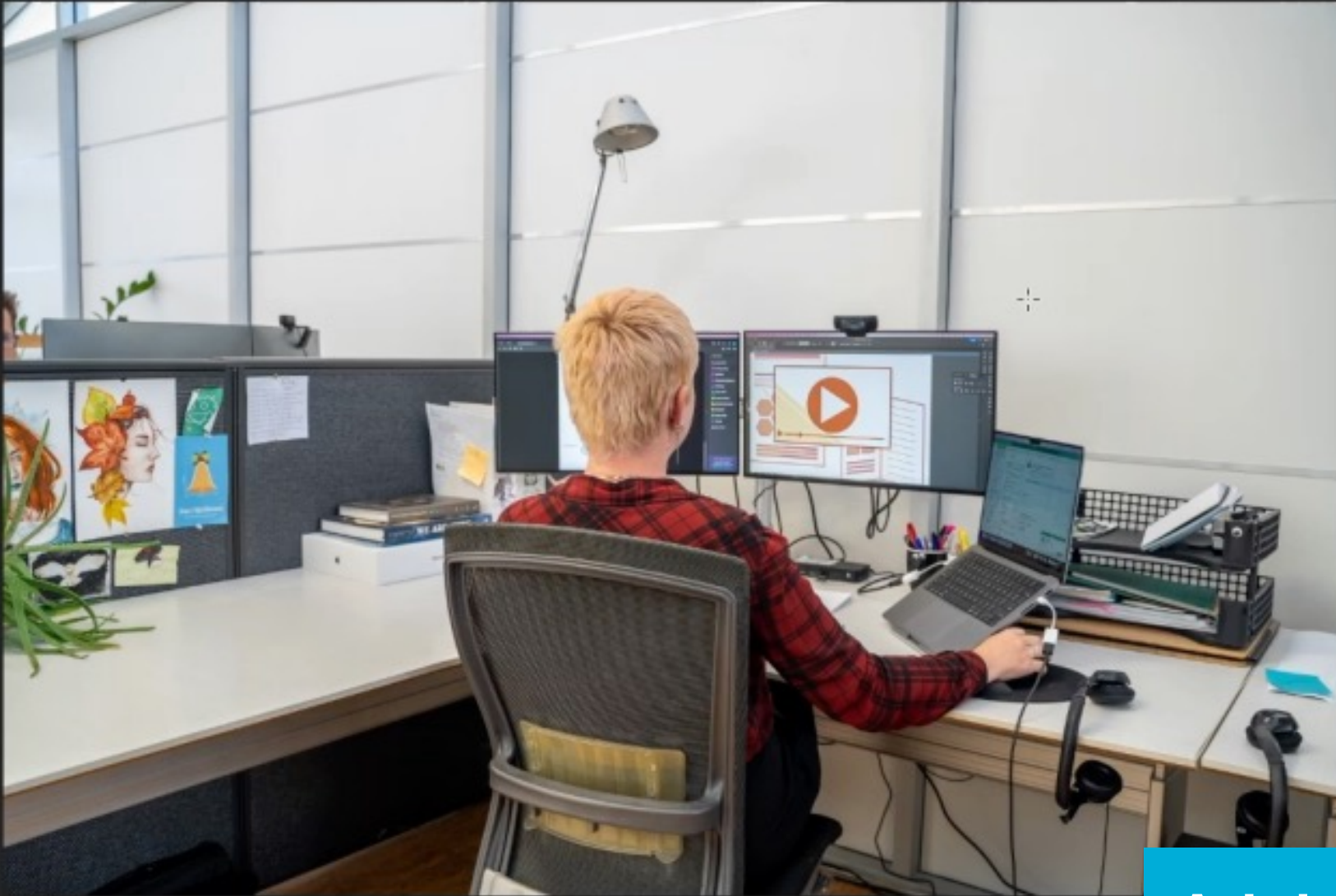


Image generated with Adobe Firefly

Use AI as a tool

- Creating images
- Custom icons
- Font and colour choice
- Creating videos
- UI/UX design





Properties Adjustments Libraries

Document

Canvas

W 6000 px X 0 px

H 4000 px Y 0 px

Resolution: 240 pixels/inch

Mode RGB Color

8 Bits/Channel

Fill Background Color

Rulers & Grids

Pixels

Color

Swatches

Gradients

Patterns

Properties

Adjustments

Layers

Channels

Paths

Select subject Remove background

Adobe Generative Fill

Help me Create

Templates

Start Screen Recording

Upload Media

Hello, Xavier.

Let's make a video

Describe your video. Type @ to reference your Workspace files.

Next

A recap video of my weekly marketing meeting



A pitch for our updated product, recyclable tin packaging



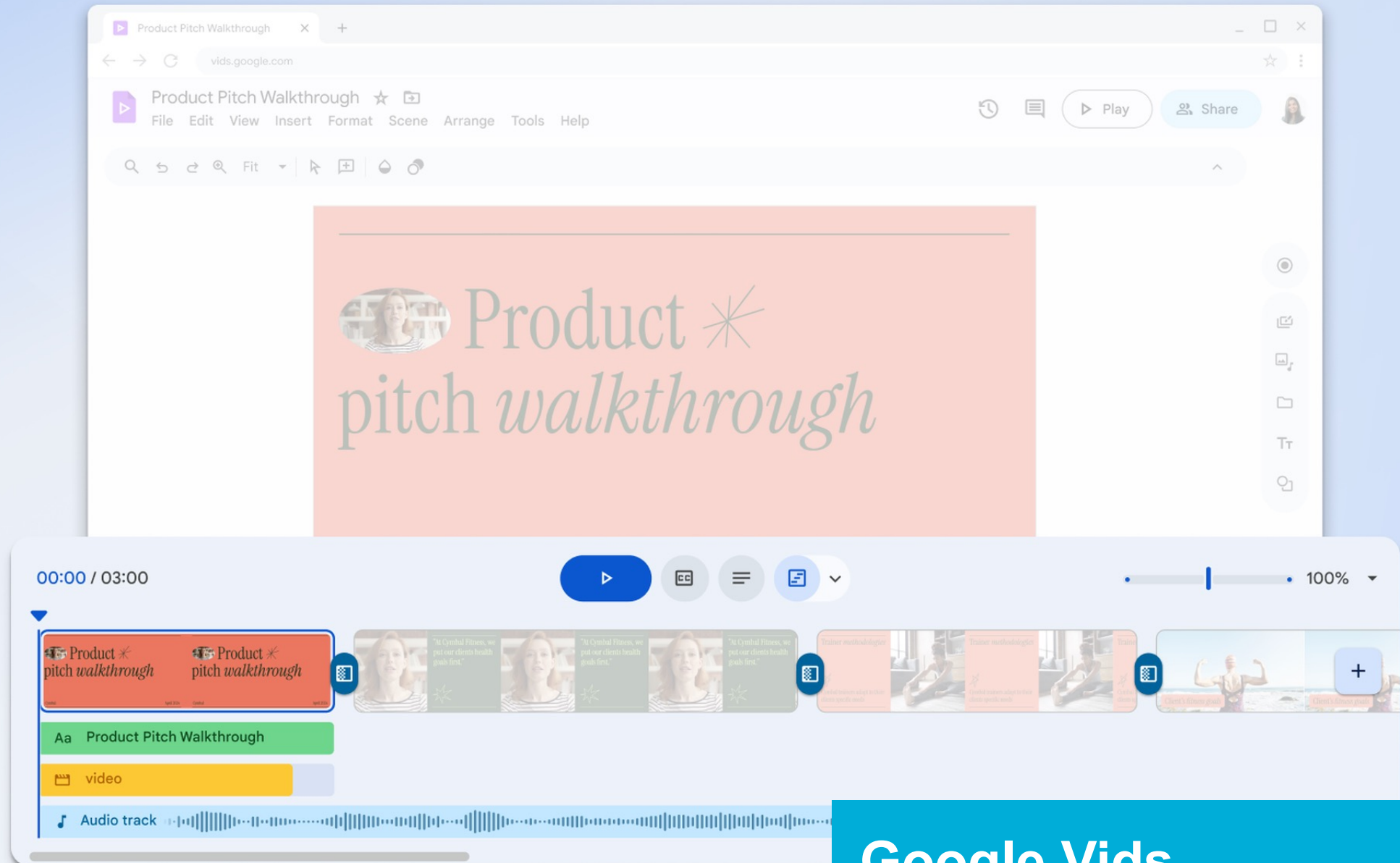
A celebratory video of employee wins in the company



Gemini in Vids won't always get it right. Responses are based on inputs and do not represent Google's views. Generated content can be viewable in version history by others. Images and videos may be AI-generated or stock. [Learn more.](#)

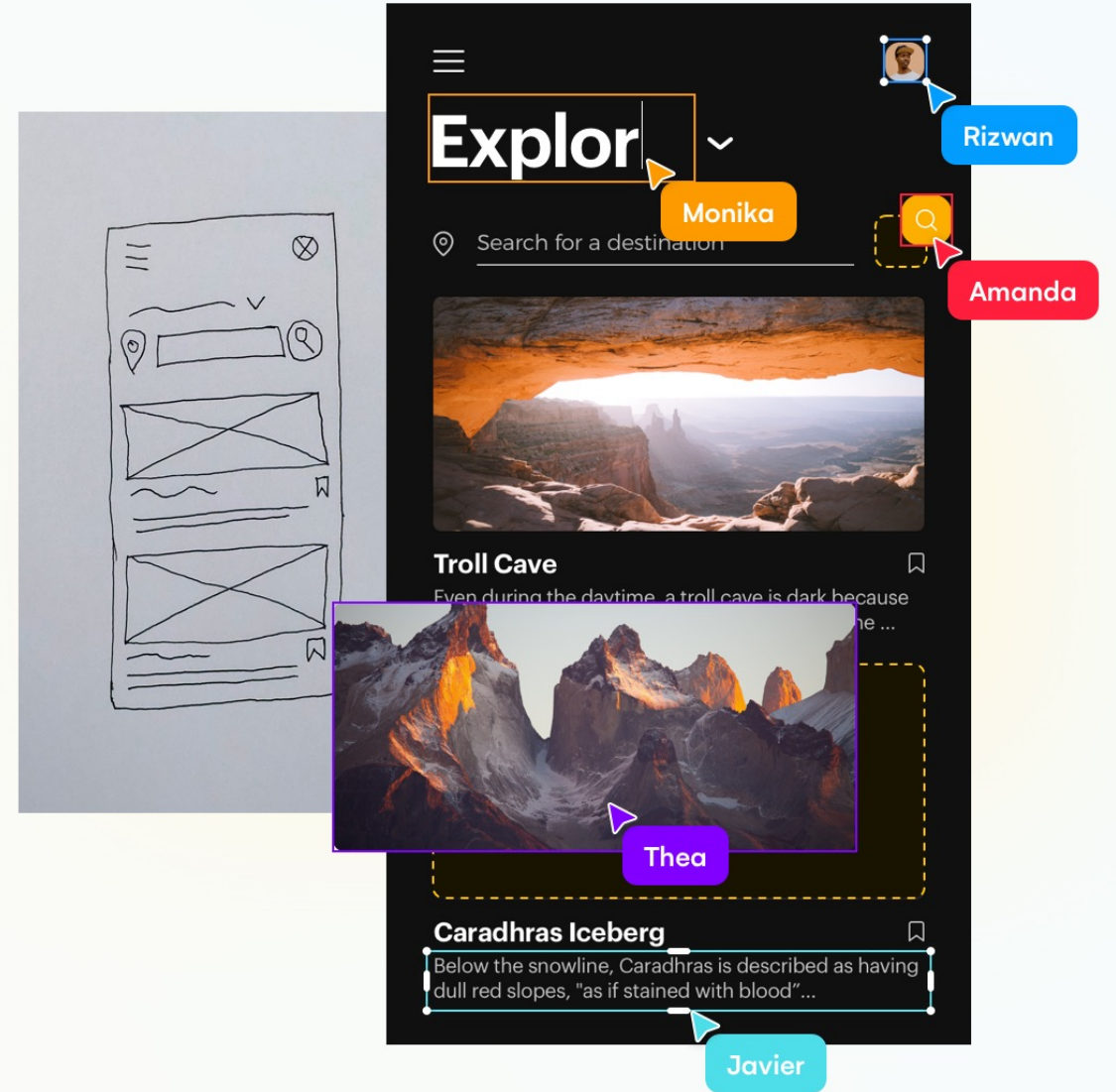
Google Vids

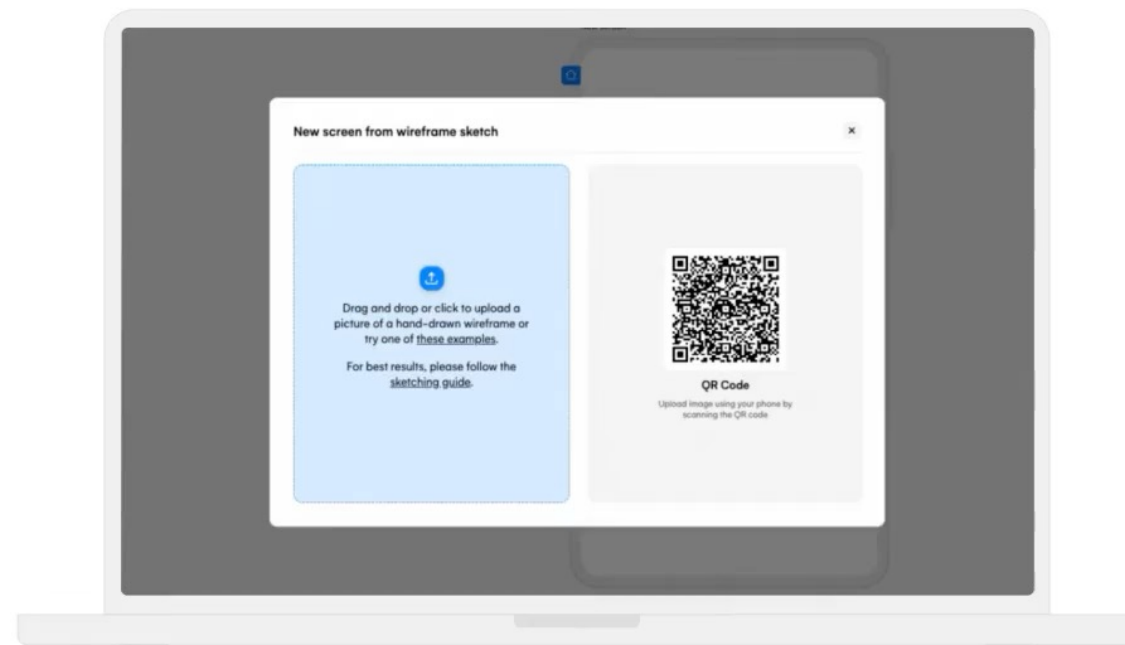
Google Vids - new Workspace app coming soon



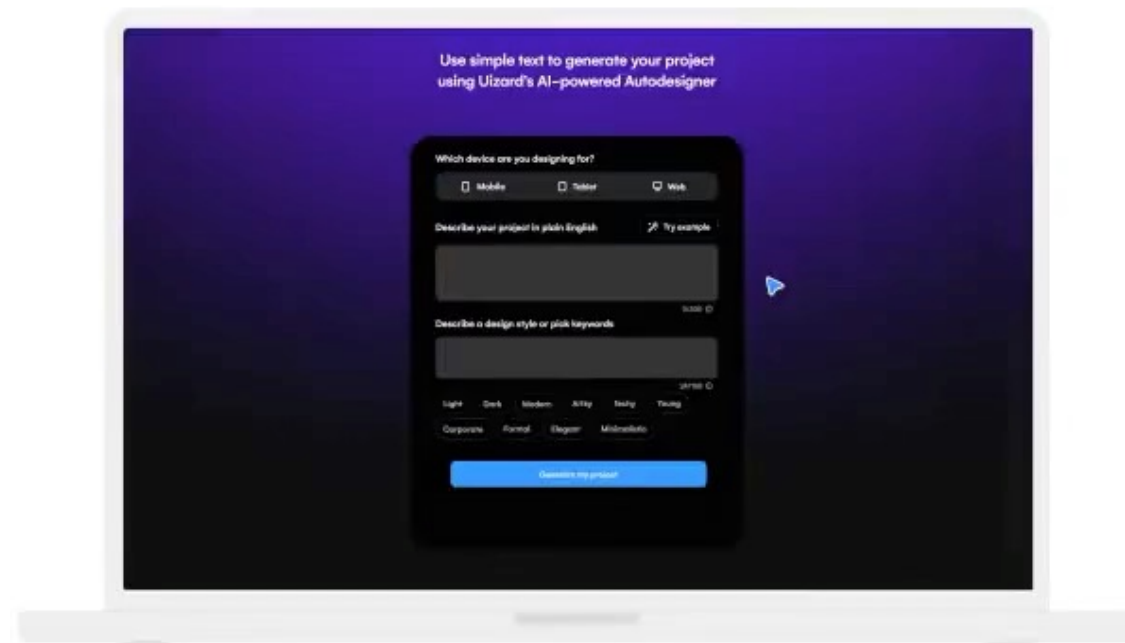
Google Vids

The easiest and fastest tool to design your ideas

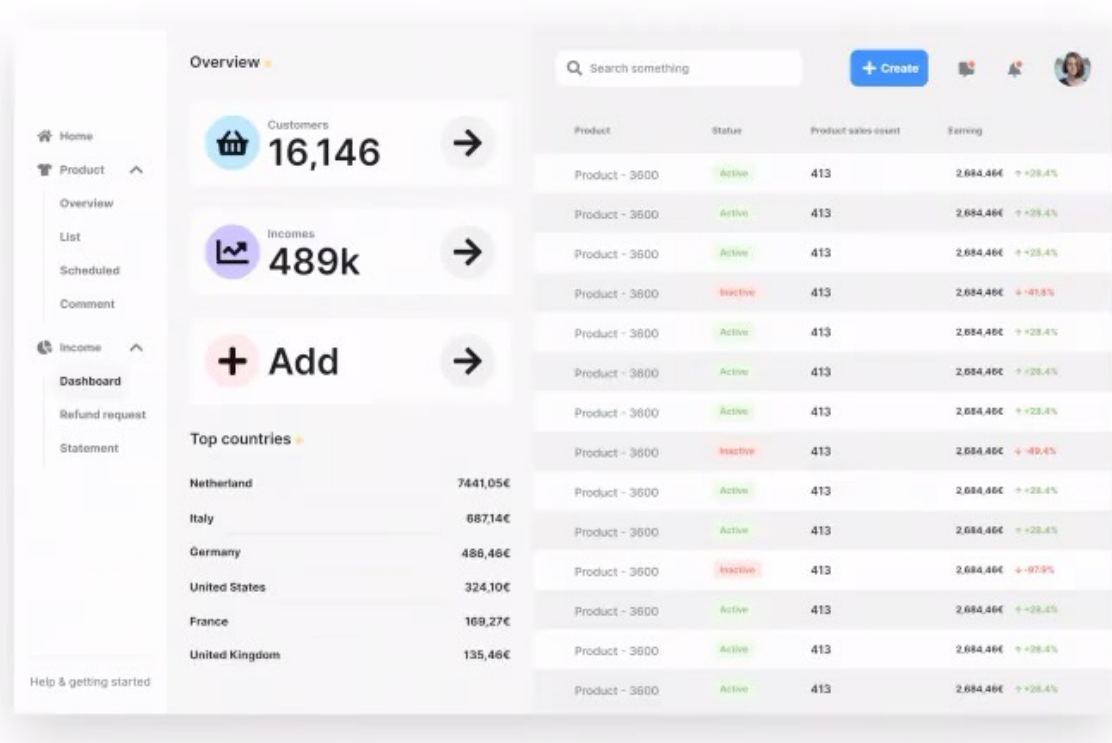




Uizard



Uizard



Ethics

- AI generated art for commercial use is a potential breach of copyright to artists.
 - Adobe Firefly is guaranteed to be ethical as it is based on work that has been paid for and given with permission.
- Always check the rules of the tool you are using.
- Although it may not be stated, it is good practice to cite the AI tool used to create your image.
- Tip to avoid copyright issues is to reverse google image search - <https://lens.google.com/>

Useful developer tools

Useful developer tools



ChatGPT – chat.openai.com

- Open ended conversational AI
- Set the context of a conversation with instructions, then converse to get results
- Make further comments or questions to clarify results

Copilot – github.com/features/copilot

- Autocompletes code suggestions
- Integrates with RStudio and VS Code
- Improves coding practice, rapid iteration of ideas
- Open ended suggestion and prompts

Other useful tools

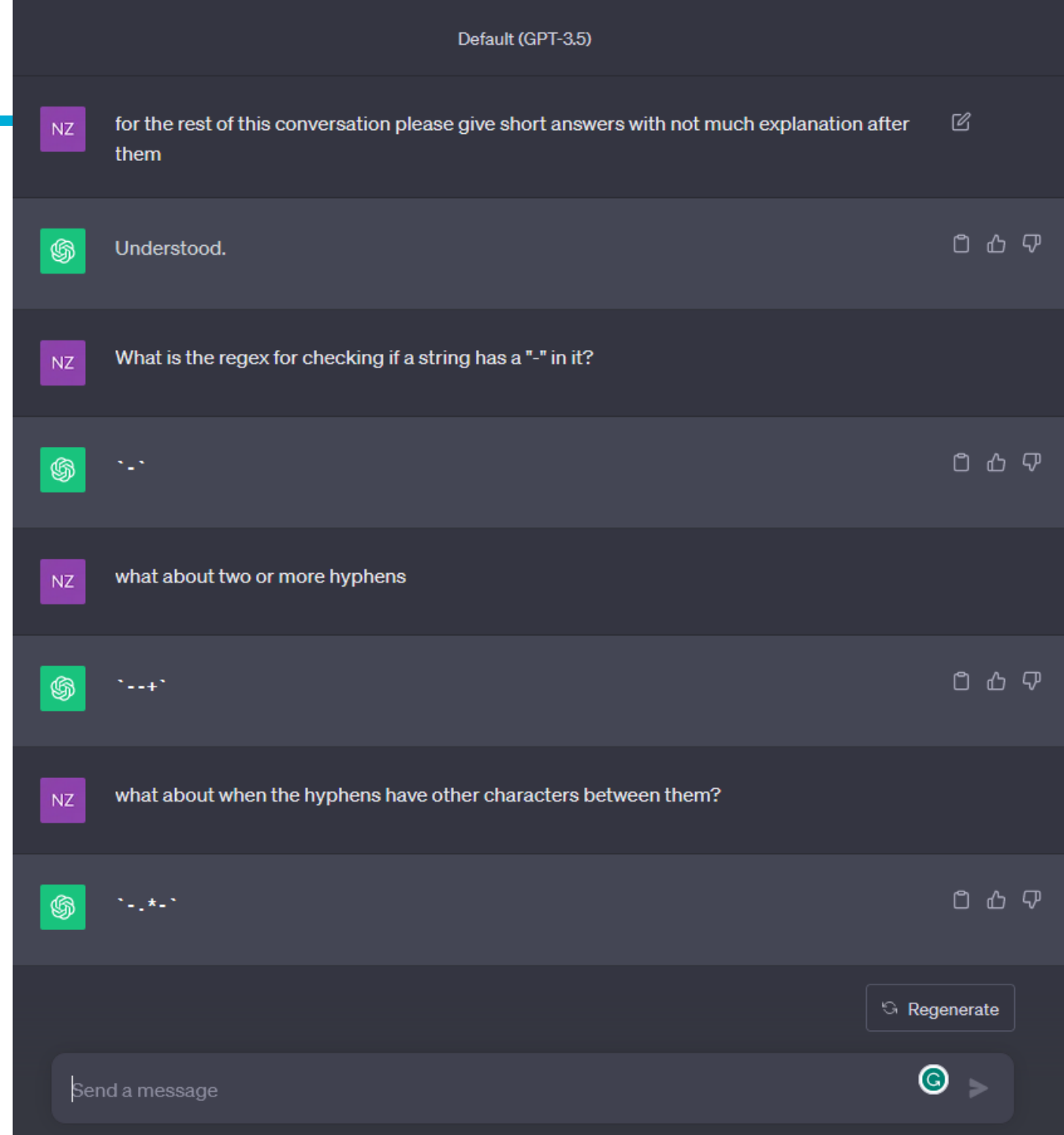
- **Phind** – <https://www.phind.com/>

AI Powered search engine and pair programming tool
Can customise available sources for AI search



ChatGPT


- Fluid conversation between ChatGPT and the developer
- Allows clarification to get better results (without retyping the whole prompt)
- Useful to find out how to do something specific with technology that is well established (e.g. Regex)






AI Powered R Packages

Extending The RStudio / R workflow with AI

- OpenAI
- GPTStudio
- GPTTools
- Chattr

Submit 
Copilot (GitHub)

You can remove all the vowels from a character string in R using the `gsub()` function. Here's the code:



```
string <- "Hello, World!"  
string_without_vowels <- sub("[aeiou]", "", string, ignore.case = TRUE)  
string_without_vowels
```

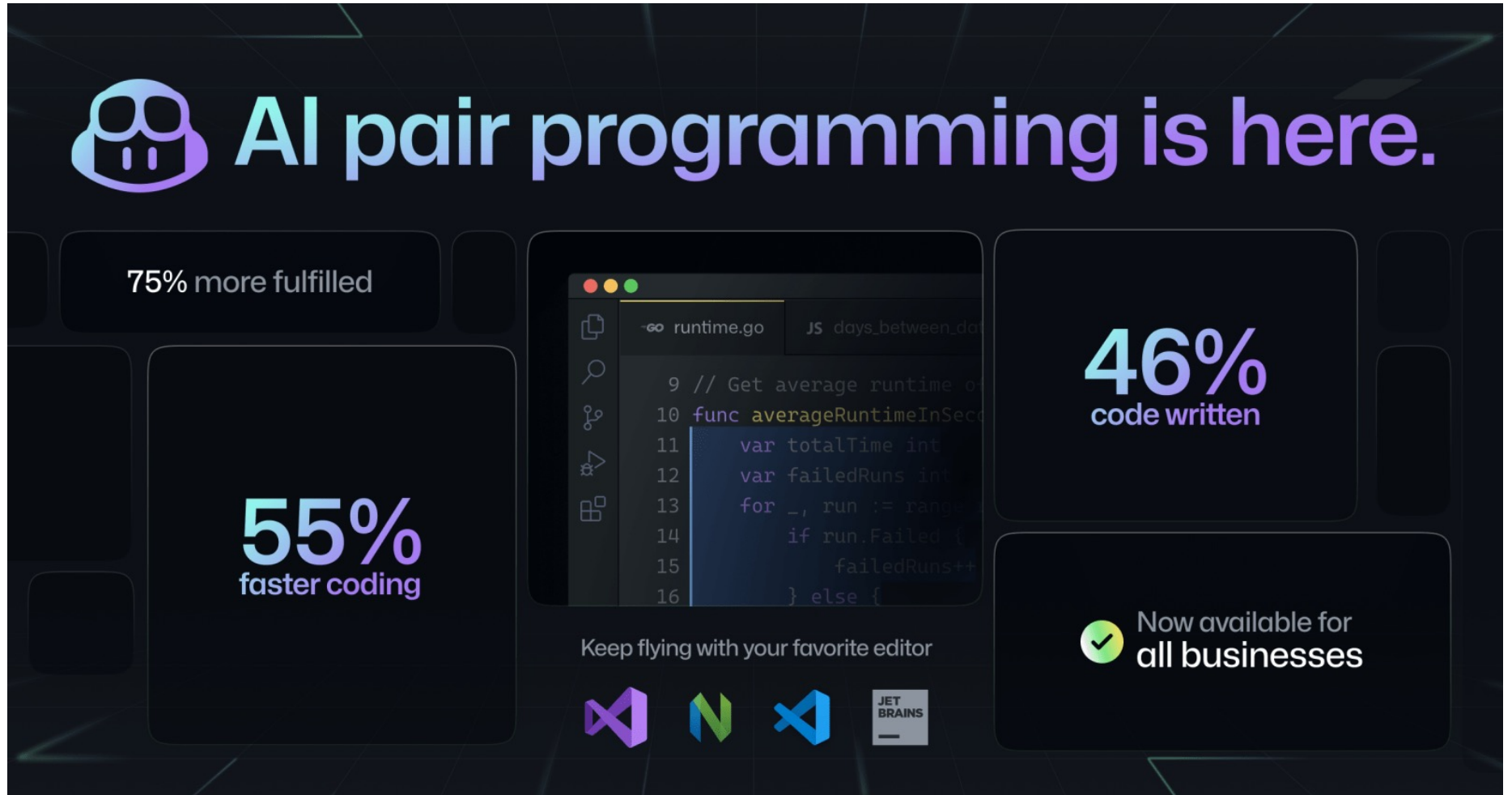
This code will remove all vowels (both lowercase and uppercase) from the string and store the result in the variable `string_without_vowels`.

How can I remove all the vowels from a character string?


Hello! How can I assist you today with R programming and data modeling using tidyverse and tidymodels?

Hello there!

GitHub Copilot



The advertisement features a dark background with a grid pattern. At the top left is the GitHub logo. The main headline is 'AI pair programming is here.' in a large, bold, light blue font. Below the headline are several statistics and a code editor preview. The statistics include '75% more fulfilled', '55% faster coding', and '46% code written'. The code editor preview shows a Go file named 'runtime.go' with a function 'averageRuntimeInSeconds'. At the bottom, there is a section titled 'Keep flying with your favorite editor' with logos for Visual Studio, Neovim, and VS Code, along with a 'JET BRAINS' logo. A green checkmark icon is next to the text 'Now available for all businesses'.

 **AI pair programming is here.**





75% more fulfilled


55%
faster coding

```
9 // Get average runtime of
10 func averageRuntimeInSeconds() {
11     var totalTime int
12     var failedRuns int
13     for _, run := range runs {
14         if run.Failed {
15             failedRuns++
16         } else {
```

46%
code written

Keep flying with your favorite editor

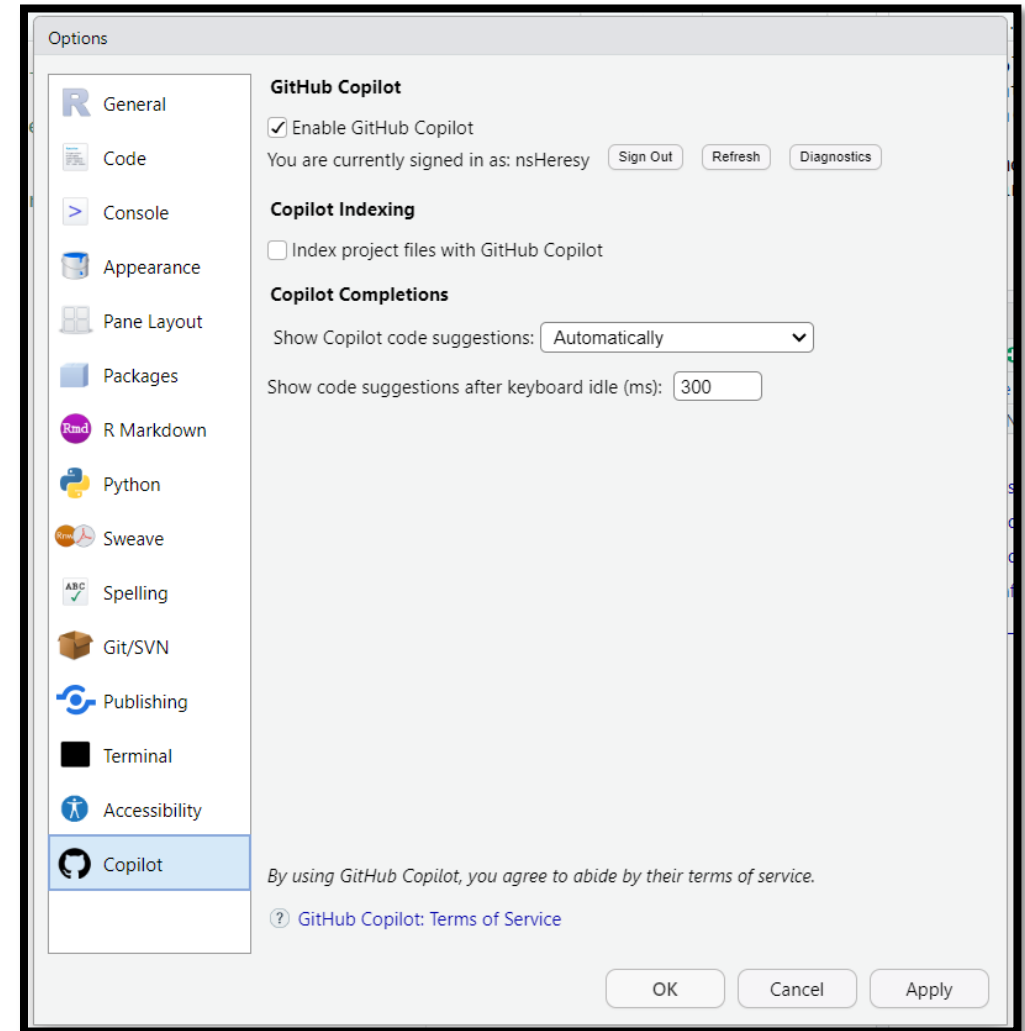
   

 Now available for
all businesses

<https://github.blog/2023-02-14-github-copilot-for-business-is-now-available/>

Copilot in RStudio

- Available from RStudio and Posit Workbench 2023.09.0.
- Requires a GitHub account with an active Copilot subscription.
- Needs to be enabled in the project or global settings.
- Consider privacy – Indexing project files with Copilot



example-shiny - RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins

example-shiny

Files Plots Packages

ktop > AI > example-shiny

Name

- ..
- .Rhistory
- .Rproj.user
- app.R
- example-shiny.Rproj
- preprocessing.R

00:00

Environment History

248 MiB

R Global Environment

Data

diamo... 53940 obs. ...

Functions

get_d... function ()

app.R preprocessing.R

```
1 library(shiny)
2
3
4 ui <- fluidPage(
5   "Hello, world!"
6 )
7
8
9 server <- function(input, output, session) {
10 }
11
12
13 shinyApp(ui, server)
14
```

1:15 (Top Level)

Copilot: No completions available. R Script

Console Terminal Background Jobs

R 4.1.3 · C:/Users/Ben/Desktop/AI/example-shiny/

> |

Copilot in a Shiny App

File Edit Code view Plots Session Build Debug Profile Tools Help

Go to file/function Addins

Section3.R x Untitled1* x

Source on Save Run Source

```
1  
2 library(dplyr)  
3  
4 # use readRDS to load the modified dairy data from the data folder  
5 modified_dairy_data <- readRDS("data/modified_dairy_data.RDS")  
6  
7 print(colnames(modified_dairy_data))  
8  
9 # use the group_by and summarise functions to calculate the average milk production for each farm
```

Console Terminal Background Jobs

R 4.3.3 · C:/Users/Nick/Desktop/Triage/Fonterra Day 2/content/exercises/

>

Environment Files Plots Packages Help Viewer Presentation

Zoom Export

9:1 (Top Level) Copilot: Completion response received. R Script

History Connections Tutorial

Rapid iteration with Copilot








Practical uses for large language models

Practical uses for large language models

- Generative AI models (machine learning)
- Identifies patterns and structures in text to generate new content
- Trained on massive amounts of text data
- Understands context and relationships between terms
- Useful in applications for discrete, specific tasks
- <https://platform.openai.com/examples>

Example
Shiny App:
cleaning
and
extracting
HTML

Forecast for the next 48 hours

	Monday			Tuesday			
	Morning	Afternoon	Evening	Night	Morning	Afternoon	Evening
Forecast							
Temperature	9 °C	14 °C	12 °C	10 °C	13 °C	16 °C	10 °C
	Mostly cloudy.	Mostly cloudy.	Clear.	Clear.	Cloudy.	Mostly cloudy.	Drizzle. Overcast.
Feels Like	7 °C	12 °C	11 °C	9 °C	12 °C	16 °C	6 °C
Wind Speed	16 km/h	36 km/h	13 km/h	7 km/h	8 km/h	29 km/h	24 km/h
Wind Direction	N ↓	NNW ↘	N ↓	NNE ↙	NNE ↙	SSE ↗	SSE ↗
Humidity	75%	63%	69%	76%	66%	60%	80%
Dew Point	5 °C	7 °C	7 °C	6 °C	7 °C	8 °C	6 °C
Visibility	11 km	10 km	9 km	10 km	11 km	11 km	7 km
Probability of Precipitation	0%	0%	0%	0%	0%	0%	5%
Amount of Rain	-	-	-	-	-	-	0.7 mm
* Updated Monday, 9 October 2023 8:27:47 a.m. Wellington time - Weather by CustomWeather, © 2023							

OpenAI API

Overview

The OpenAI API is powered by a diverse set of models with different capabilities and price points. You can also make customizations to our models for your specific use case with [fine-tuning](#).

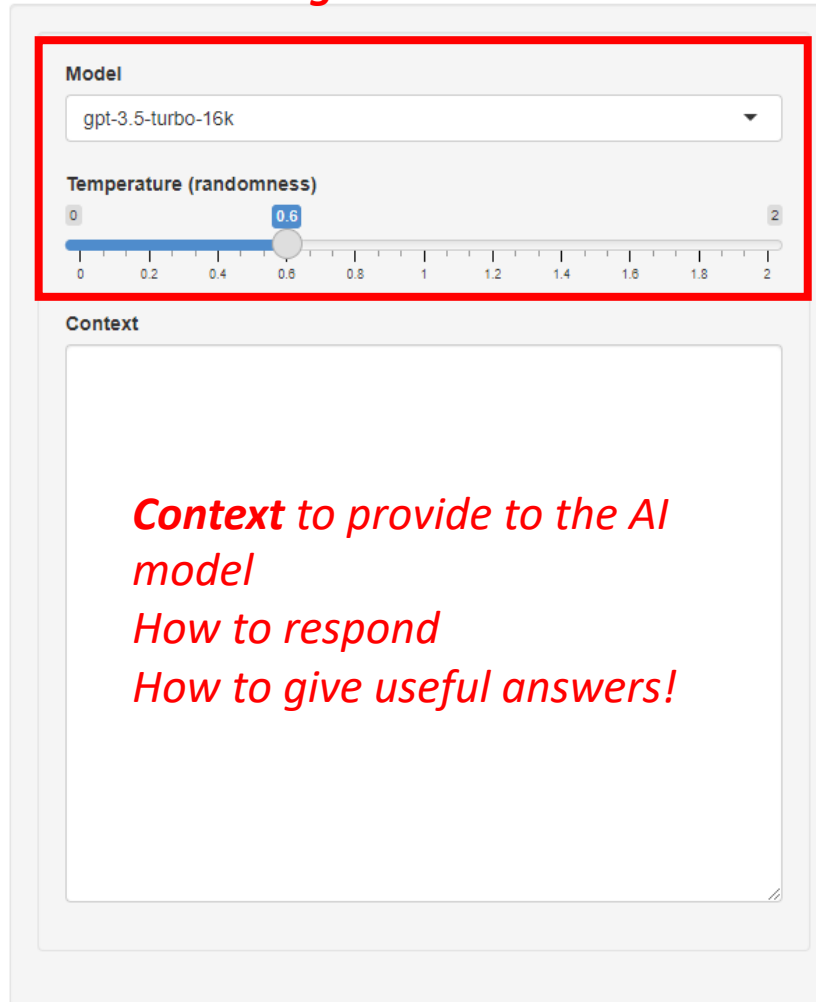
MODEL	DESCRIPTION
GPT-4 Turbo and GPT-4	A set of models that improve on GPT-3.5 and can understand as well as generate natural language or code
GPT-3.5 Turbo	A set of models that improve on GPT-3.5 and can understand as well as generate natural language or code
DALL·E	A model that can generate and edit images given a natural language prompt
TTS	A set of models that can convert text into natural sounding spoken audio
Whisper	A model that can convert audio into text
Embeddings	A set of models that can convert text into a numerical form
Moderation	A fine-tuned model that can detect whether text may be sensitive or unsafe
GPT base	A set of models without instruction following that can understand as well as generate natural language or code
Deprecated	A full list of models that have been deprecated along with the suggested replacement

OpenAI API parameters

- Model
- Temperature
 - *Between 0 and 2 – how random will the generated response be?*
- Max tokens
 - *Maximum number of tokens to be used in the completion*
- Messages
 - *System: Instructions to the AI, context on how it should behave*
 - *User: Instructions given by the user*
 - *Assistant: A response which the AI has provided*

Setting up OpenAI

Model Settings



Model

gpt-3.5-turbo-16k

Temperature (randomness)

0 0.6 2

Context

***Context** to provide to the AI model*

How to respond

How to give useful answers!

***Content** for the AI model to interpret and provide an answer to.*

(Note: This is distinctly connected to the context provided)

Settings + Context + Content = Result

Setting up OpenAI

```
mod_hai_server <- function(id, msgContent, params) {  
  moduleServer(id, function(input, output, session){  
    ns <- session$ns
```

```
    aiOutput <- reactive({  
      api_url <- Sys.getenv("OPENAI_ADDR")  
      api_key <- Sys.getenv("OPENAI_KEY")
```

```
      data_to_send <- toJSON(list(  
        temperature = params()$temperature,  
        model = params()$model, #added  
        messages = list(  
          list(role = "system", content = params()$context),  
          list(role = "user", content = msgContent())  
        )  
      ), auto_unbox = TRUE)
```

Creating the API Query

```
      response <- POST(  
        url = api_url,  
        add_headers(  
          `Content-Type` = "application/json",  
          Authorization = paste("Bearer", api_key)  
        ),  
        body = data_to_send,  
        encode = "json"  
      )
```

Querying the API
for a response

```
      validate(need(response$status_code == 200,  
        message = sprintf("API call failed. Status Code: %s",  
          response$status_code)))  
      content <- fromJSON(content(response, as = "text", encoding = "UTF-8"))  
      return(content)
```

```
    })
```

```
  return(aiOutput)
```

```
}
```

```
}
```

You are a code cleaning robot, designed to help clean up HTML code for further processing. You will be provided with an HTML extract from a web page. You will minify the provided HTML code and remove any attributes from the HTML elements except for the 'src' or 'href' attributes. You will remove any script tags and content inside of script tags from the HTML.

```
<table id="wt-48" class="zebra tb-wt tc sep">
<thead>
<tr class="bg-wt">
<th> </th>
<th colspan="3">Wednesday</th>
<th colspan="4" class="sep-l">Thursday</th>
</tr>
<tr>
<th> </th>
<th><span title="Morning means the time between 6:00 a.m. and 12:00 Noon">Morning</span></th>
<th><span title="Afternoon means the time between 12:00 Noon and 6:00 p.m.">Afternoon</span></th>
<th><span title="Evening means the time between 6:00 p.m. and 12:00 Midnight">Evening</span></th>
<th class="sep-l"><span title="Night means the time between 12:00 Midnight and 6:00 a.m.">Night</span></th>
<th><span title="Morning means the time between 6:00 a.m. and 12:00 Noon">Morning</span></th>
<th><span title="Afternoon means the time between 12:00 Noon and 6:00 p.m.">Afternoon</span></th>
<th><span title="Evening means the time between 6:00 p.m. and 12:00 Midnight">Evening</span></th>
</tr>
</thead>
<tbody>
<tr>
<td>Forecast</td>
<td></td>
<td></td>
<td></td>
<td class="sep-l"></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

<table id="wt-48" class="zebra tb-wt tc sep"><thead><tr class="bg-wt"><th></th><th colspan="3">Wednesday</th><th colspan="4" class="sep-l">Thursday</th></tr><tr><th></th><th></th><th></th><th colspan="2">Morning</th><th></th><th colspan="2">Afternoon</th><th></th><th></th><th colspan="2">Evening</th></tr><tr class="sep-l"><th colspan="2">Morning</th><th></th><th colspan="2">Afternoon</th><th colspan="2">Evening</th></tr><tr><th colspan="2">Morning</th><th colspan="2">Afternoon</th><th colspan="2">Evening</th></tr><tr><th colspan="2">Forecast</th><td></td><td></td><td></td><td class="sep-l"></td><td></td><td></td></tr><tr><th>Temperature</th><td>10 °C</td><td>14 °C</td><td>12 °C</td><td class="sep-l">10 °C</td><td>13 °C</td><td>17 °C</td><td>13 °C</td><tr><th></th><td class="smaller">Overcast.</td><td class="smaller">Mostly sunny.</td><td class="smaller">Broken clouds.</td><td class="sep-l smaller">Clear.</td><td class="smaller">Sunny.</td><td class="smaller">Sunny.</td><td class="smaller">Scattered clouds.</td></tr><tr><th>Feels Like</th><td>8 °C</td><td>12 °C</td><td>9 °C</td><td class="sep-l">8 °C</td><td>10 °C</td><td>17 °C</td><td>11 °C</td></tr><tr><th>Wind Speed</th><td>9 km/h</td><td>20 km/h</td><td>31 km/h</td><td class="sep-l">11 km/h</td><td>27 km/h</td><td>26 km/h</td><td>17 km/h</td></tr><tr><th>Wind Direction</th><td>ESE ↑</td><td>NW ↑</td><td>NNW ↑</td><td class="sep-l">NNE ↑</td><td>NNE ↑</td><td>N ↑</td><td>NNE ↑</td></tr><tr><th>Humidity</th><td>81%</td><td>61%</td><td>60%</td><td class="sep-l">66%</td><td>60%</td><td>51%</td><td>75%</td></tr><tr><th>Dew Point</th><td>7 °C</td><td>6 °C</td><td>5 °C</td><td class="sep-l">7 °C</td><td>5 °C</td><td>7 °C</td><td>8 °C</td></tr><tr><th>Visibility</th><td>8 km</td><td>11 km</td><td>10 km</td><td class="sep-l">10 km</td><td>11 km</td><td>12 km</td><td>9 km</td></tr><tr><th>Probability of Precipitation</th><td>2%</td><td>0%</td><td>0%</td><td class="sep-l">0%</td><td>0%</td><td>0%</td><td>0%</td></tr></tbody></table>
--

Cleaning the input HTML

Model

gpt-3.5-turbo-16k

Temperature (randomness)

00.62

Context

You are a web scraping robot, designed to help extract values from HTML code. You will parse through the provided HTML table and extract the values from the table, returning them in an escaped JSON format. The JSON object will match the following template:

```
{
  "Day": " ",
  "Time": " ",
  "Forecast": " ",
  "Temperature": " ",
  "Feels Like": " ",
  "Wind Speed": " ",
  "Wind Direction": " ",
  "Humidity": " ",
  "Dew Point": " ",
  "Visibility": " ",
  "Probability of Precipitation": " "
}
```

- Prompt token usage: 1165 tokens
- Completion token usage: 559 tokens
- Total token usage: 1724 tokens

Finish reason: stop

Show 10 entries

Search:

	Day	Time	Forecast	Temperature	Feels Like	Wind Speed	Wind Direction	Humidity	Dew Point	Visibility	Probability of Precipitation
1	Wednesday	Morning	Overcast.	10 °C	8 °C	9 km/h	ESE	81%	7 °C	8 km	2%
2	Wednesday	Afternoon	Mostly sunny.	14 °C	12 °C	20 km/h	NW	61%	6 °C	11 km	0%
3	Wednesday	Evening	Broken clouds.	12 °C	9 °C	31 km/h	NNW	60%	5 °C	10 km	0%
4	Wednesday	Night	Clear.	10 °C	8 °C	11 km/h	NNE	66%	3 °C	10 km	0%
5	Thursday	Morning	Sunny.	13 °C	10 °C	27 km/h	NNE	60%	5 °C	11 km	0%
6	Thursday	Afternoon	Sunny.	17 °C	17 °C	26 km/h	N	51%	7 °C	12 km	0%
7	Thursday	Evening	Scattered clouds.	13 °C	11 °C	17 km/h	NNE	75%	8 °C	9 km	0%

Showing 1 to 7 of 7 entries

Previous1Next

```
<table id="wt-48" class="zebra tb-wt tc sep"><thead><tr class="bg-wt"><th></th><th colspan="3">Wednesday</th><th colspan="4" class="sep-l">Thursday</th></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Friday</th><th colspan="3" class="sep-l">Saturday</th></tr></thead><tbody><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Morning</th><th colspan="3" class="sep-l">Afternoon</th><th colspan="3" class="sep-l">Evening</th></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Forecast</th><td></td><td></td><td></td><td class="sep-l"></td><td></td><td></td></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Temperature</th><td>10 °C</td><td>14 °C</td><td>12 °C</td><td class="sep-l">10 °C</td><td>13 °C</td><td>17 °C</td><td>13 °C</td></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Feels Like</th><td>8 °C</td><td>12 °C</td><td>9 °C</td><td class="sep-l">8 °C</td><td>10 °C</td><td>17 °C</td><td>11 °C</td></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Wind Speed</th><td>9 km/h</td><td>20 km/h</td><td>31 km/h</td><td class="sep-l">11 km/h</td><td>27 km/h</td><td>26 km/h</td><td>17 km/h</td></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Wind Direction</th><td>ESE</td><td>NW</td><td>NNW</td><td class="sep-l">NNE</td><td>NNE</td><td>N</td><td>NNE</td></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Humidity</th><td>81%</td><td>61%</td><td>60%</td><td class="sep-l">66%</td><td>60%</td><td>51%</td><td>75%</td></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Dew Point</th><td>7 °C</td><td>6 °C</td><td>5 °C</td><td class="sep-l">3 °C</td><td>5 °C</td><td>7 °C</td><td>8 °C</td></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Visibility</th><td>8 km</td><td>11 km</td><td>10 km</td><td class="sep-l">10 km</td><td>11 km</td><td>12 km</td><td>9 km</td></tr><tr><th></th><th></th><th></th><th colspan="3" class="sep-l">Probability of Precipitation</th><td>2%</td><td>0%</td><td>0%</td><td class="sep-l">0%</td><td>0%</td><td>0%</td><td>0%</td></tr></tbody></table>
```

Extracting data from HTML

Be specific!

You are a web scraping robot, designed to help extract values from HTML code. You will parse through the provided HTML table and extract the values from the table, returning them in an escaped JSON format.















	Wednesday.Morning.Forecast	Wednesday.Morning.Temperature	Wednesday.MorningFeels.Like	Wednesday.Morning.Wind.Speed	Wednesday.Morning.Wind.Direction
1	Overcast.	10 °C	8 °C	9 km/h	ESE ↑

You are a web scraping robot, designed to help extract values from HTML code. You will parse through the provided HTML table and extract the values from the table, returning them in an escaped JSON format. The JSON object will match the following template:

[{"Day": "___", "Time": "___", "Forecast": "___", "Temperature": "___", "Feels Like": "___", "Wind Speed": "___", "Wind Direction": "___", "Humidity": "___", "Dew Point": "___", "Visibility": "___", "Probability of Precipitation": "___"}]

	Day	Time	Forecast	Temperature	Feels Like	Wind Speed	Wind Direction	Humidity	Dew Point	Visibility	Probability of Precipitation
1	Wednesday	Morning	Overcast.	10 °C	8 °C	9 km/h	ESE	81%	7 °C	8 km	2%
2	Wednesday	Afternoon	Mostly sunny.	14 °C	12 °C	20 km/h	NW	61%	6 °C	11 km	0%
3	Wednesday	Evening	Broken clouds.	12 °C	9 °C	31 km/h	NNW	60%	5 °C	10 km	0%
4	Thursday	Night	Clear.	10 °C	8 °C	11 km/h	NNE	66%	3 °C	10 km	0%
5	Thursday	Morning	Sunny.	13 °C	10 °C	27 km/h	NNE	60%	5 °C	11 km	0%
6	Thursday	Afternoon	Sunny.	17 °C	17 °C	26 km/h	N	51%	7 °C	12 km	0%
7	Thursday	Evening	Scattered clouds.	13 °C	11 °C	17 km/h	NNE	75%	8 °C	9 km	0%

Validation

	Wednesday			Thursday			
	Morning	Afternoon	Evening	Night	Morning	Afternoon	Evening
Forecast							
Temperature	10 °C	14 °C	12 °C	10 °C	13 °C	17 °C	13 °C
	Overcast.	Mostly sunny.	Broken clouds.	Clear.	Sunny.	Sunny.	Scattered clouds.
Feels Like	8 °C	12 °C	9 °C	8 °C	10 °C	17 °C	11 °C
Wind Speed	9 km/h	20 km/h	31 km/h	11 km/h	27 km/h	26 km/h	17 km/h
Wind Direction	ESE 	NW 	NNW 	NNE 	NNE 	N 	NNE 
Humidity	81%	61%	60%	66%	60%	51%	75%
Dew Point	7 °C	6 °C	5 °C	3 °C	5 °C	7 °C	8 °C
Visibility	8 km	11 km	10 km	10 km	11 km	12 km	9 km
Probability of Precipitation	2%	0%	0%	0%	0%	0%	0%
* Updated Wednesday, 11 October 2023 8:28:00 a.m. Wellington time - Weather by CustomWeather, © 2023							

- Does the OpenAI output match the original content?
- More specific prompts leads to more predictable outcome
- Reduce temperature parameter value

Show

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▼

entries

Search:

	Day	Time	Forecast	Temperature	Feels Like	Wind Speed	Wind Direction	Humidity	Dew Point	Visibility	Probability of Precipitation
1	Wednesday	Morning	Overcast.	10 °C	8 °C	9 km/h	ESE	81%	7 °C	8 km	2%
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7	Thursday	Evening	Scattered clouds.	13 °C	11 °C	17 km/h	NNE	75%	8 °C	9 km	0%

Showing 1 to 7 of 7 entries

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Tips

- Be specific!
- Be wary of 'hallucinations' and 'confidently incorrect' answers.
- Watch out for missing or incorrect values.
- Check expected prompt token size.
- Pick the right model for your use case & token usage!
- Be mindful of API usage and rate limits.

Food for thought

- AI and AI tools are a constantly evolving field
- New capabilities are constantly emerging
- Still requires careful validation and consideration
- Potential to greatly enhance the work we do

“Artificial intelligence is not a substitute for human intelligence; it is a tool to amplify human creativity and ingenuity.”

[Fei-Fei Li, Co-Director of the Stanford Institute for Human-Centered Artificial Intelligence and IT Professor at the Graduate School of Business](#)



Thank you!

If you'd like to reach out afterwards:
shanna@epi-interactive.com
nick@epi-interactive.com



EPI-interactive



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