

Package ‘codestral’

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Title Chat and FIM with 'Codestral'

Version 0.0.1

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Description Create an addin in 'Rstudio' to do fill-in-the-middle (FIM) and chat with latest Mistral AI models for coding, 'Codestral' and 'Codestral Mamba'. For more details about 'Mistral AI API': <<https://docs.mistral.ai/getting-started/quickstart/>> and <<https://docs.mistral.ai/api/>>. For more details about 'Codestral' model: <<https://mistral.ai/news/codestral>>; about 'Codestral Mamba': <<https://mistral.ai/news/codestral-mamba>>.

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Encoding UTF-8

RoxygenNote 7.3.2

Imports dplyr, httr, jsonlite, magrittr, rstudioapi, stringr, utils

Depends R (>= 4.1)

LazyData true

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

URL <https://urbs-dev.github.io/codestral/>

BugReports <https://github.com/urbs-dev/codestral/issues>

NeedsCompilation no

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codestral	<i>Fill in the middle with Codestral</i>
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Description

This function completes a given prompt using the Codestral API. It supports different models for fill-in-the-middle, chat with Codestral, and chat with Codestral Mamba. The function relies on environment variables for some parameters.

Usage

```
codestral(  
  prompt,  
  mistral_apikey = Sys.getenv(x = "R_MISTRAL_APIKEY"),  
  codestral_apikey = Sys.getenv(x = "R_CODESTRAL_APIKEY"),  
  fim_model = Sys.getenv(x = "R_CODESTRAL_FIM_MODEL"),  
  chat_model = Sys.getenv(x = "R_CODESTRAL_CHAT_MODEL"),  
  mamba_model = Sys.getenv(x = "R_MAMBA_CHAT_MODEL"),  
  temperature = as.integer(Sys.getenv(x = "R_CODESTRAL_TEMPERATURE")),  
  max_tokens_FIM = Sys.getenv(x = "R_CODESTRAL_MAX_TOKENS_FIM"),  
  max_tokens_chat = Sys.getenv(x = "R_CODESTRAL_MAX_TOKENS_CHAT"),  
  role_content = Sys.getenv(x = "R_CODESTRAL_ROLE_CONTENT"),  
  suffix = ""  
)
```

Arguments

prompt	The prompt to complete.
mistral_apikey, codestral_apikey	The API keys to use for accessing Codestral Mamba and Codestral. Default to the value of the R_MISTRAL_APIKEY, R_CODESTRAL_APIKEY environment variable. Note that the name of the variable <code>mistra_apikey</code> is purposely not mentioning Codestra Mamba because this key can be use for other Mistral AI models (except Codestral).
fim_model	The model to use for fill-in-the-middle. Defaults to the value of the R_CODESTRAL_FIM_MODEL environment variable.

chat_model	The model to use for chat with Codestral. Defaults to the value of the R_CODESTRAL_CHAT_MODEL environment variable.
mamba_model	The model to use for chat with Codestral Mamba. Defaults to the value of the R_MAMBA_CHAT_MODEL environment variable.
temperature	The temperature to use. Defaults to the value of the R_CODESTRAL_TEMPERATURE environment variable.
max_tokens_FIM, max_tokens_chat	Integers giving the maximum number of tokens to generate for FIM and chat. Defaults to the value of the R_CODESTRAL_MAX_TOKENS_FIM, R_CODESTRAL_MAX_TOKENS_CHAT environment variables.
role_content	The role content to use. Defaults to the value of the R_CODESTRAL_ROLE_CONTENT environment variable.
suffix	The suffix to use. Defaults to an empty string.

Value

A character string containing the completed text.

codestral_init	<i>Initialize codestral</i>
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Description

Create environment variables for operationg FIM and chat.

Usage

```
codestral_init(  
  mistral_apikey = Sys.getenv(x = "R_MISTRAL_APIKEY"),  
  codestral_apikey = Sys.getenv(x = "R_CODESTRAL_APIKEY"),  
  fim_model = "codestral-latest",  
  chat_model = "codestral-latest",  
  mamba_model = "open-codestral-mamba",  
  temperature = 0,  
  max_tokens_FIM = 100,  
  max_tokens_chat = "",  
  role_content = NULL  
)
```

Arguments

mistral_apikey, codestral_apikey

The API keys to use for accessing Codestral Mamba and Codestral. Default to the value of the R_MISTRAL_APIKEY, R_CODESTRAL_APIKEY environment variable. Note that the name of the variable mistra_apikey is purposely not mentioning Codestra Mamba because this key can be use for other Mistral AI models (except Codestral).

fim_model	A string giving the model to use for FIM.
chat_model	A string giving the model to use for Codestral chat.
mamba_model	A string giving the model to use for Codestral Mamba chat.
temperature	An integer giving the temperature to use.
max_tokens_FIM, max_tokens_chat	Integers giving the maximum number of tokens to generate for each of these operations.
role_content	A role to assign to the system Default is "You write programs in R language only. You adopt a proper coding approach by strictly naming all the functions' parameters when calling any function with named parameters even when calling nested functions, by being straightforward in your answers."

Details

The most important paremeters here are the ..._apikey parameters without which the Mistral AI API can not be used.

To start with, beginners may keep default values for other parameters. It seems sound to use the latest models of each type. However with time, the user may be willing to customize temperature, max_tokens_FIM, max_tokens_chat and role_content for his/her own needs.

Value

Invisible 0.

compile_dialog	<i>Analyses a prompt to re-buid the dialog</i>
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Description

Analyses a prompt to re-buid the dialog

Usage

compile_dialog(prompt)

Arguments

prompt The prompt to analyse. A vector of strings.

Value

A list with the chatter (Codestral or Codestral Mamba) and the dialog in a data.frame whith columns role and content.

complete_current_script
<i>Fill in the middle or complete</i>

Description

This function splits the current script into two parts: the part before the cursor and the part after the cursor.

Usage

complete_current_script()

Value

A character vector containing the two parts of the script.

ENDPOINTS	<i>Endpoints for the Codestral API.</i>
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Description

Endpoints for the Codestral API.

Usage

ENDPOINTS

Format

A named list with elements chat and completion.

include_file	<i>Read and include files in a prompt</i>
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Description

Read and include files in a prompt

Usage

```
include_file(prompt, anyFile)
```

Arguments

prompt	A vector of strings.
anyFile	A boolean of the same length of prompt indicating that an instruction "ff:" has been detected in a string.

Details

If anyFile[i] is TRUE then the sequence of characters following the instruction "ff:" in prompt[i] is read until the next space or the end of the string. This extracted string is assumed to be a file name. This file is looked for in the current working directory or any of its sub-directories. Once detected, the file is read with readLines() and this content is inserted in prompt between prompt[i-1] and prompt[i+1]. Note that prompt[i] is therefore deleted.

The result is returned.

Value

A vector of strings containing prompt augmented by the files referred to in the original prompt.

insert_addin	<i>Insert the model's answer</i>
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Description

This function inserts a Codestral FIM into the current script.

Usage

```
insert_addin()
```

Value

∅ (invisible).

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