

Package ‘ravel’

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Title AI Copilot for R Analysis Workflows in 'RStudio'

Version 0.1.1

Description An AI copilot for R users in 'RStudio' and Posit workflows with active-editor, workspace, object, console, plot, and git-aware context. Provides statistical helpers for interpreting `lm()` and `glm()` models, stages code and file actions before execution, drafts reproducible 'Quarto' content, and connects to official provider APIs or CLIs for 'OpenAI', 'GitHub Copilot', 'Gemini', and 'Anthropic'.

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URL <https://github.com/msaule/ravel>, <https://msaule.github.io/ravel/>

BugReports <https://github.com/msaule/ravel/issues>

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ravel_apply_action	<i>Execute a staged action</i>
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Description

Execute a staged action

Usage

```
ravel_apply_action(action, approve = FALSE, envir = NULL)
```

Arguments

action	A ravel_action.
approve	Whether to override and treat the action as approved.
envir	Evaluation environment for code execution. When NULL, Ravel uses a dedicated session-scoped environment that inherits from globalenv() for reads without writing into .GlobalEnv by default.

Value

A structured result list.

ravel_approve_action *Approve a staged action*

Description

Approve a staged action

Usage

```
ravel_approve_action(action)
```

Arguments

action	A ravel_action.
--------	-----------------

Value

The updated action.

ravel_auth_status *Report provider auth status*

Description

Report provider auth status

Usage

```
ravel_auth_status(provider = c("openai", "copilot", "gemini", "anthropic"))
```

Arguments

provider	Provider name.
----------	----------------

Value

A named list describing auth configuration.

ravel_chat_addin	<i>Launch the Ravel chat addin</i>
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Description

Launch the Ravel chat addin

Usage

```
ravel_chat_addin()
```

Value

Invisibly launches a Shiny gadget.

ravel_chat_turn	<i>Run one chat turn through a provider</i>
-----------------	---

Description

Run one chat turn through a provider

Usage

```
ravel_chat_turn(  
  prompt,  
  provider = NULL,  
  model = NULL,  
  context = NULL,  
  history = NULL  
)
```

Arguments

prompt	User prompt.
provider	Provider name.
model	Optional model override.
context	Optional precomputed context.
history	Optional existing chat history.

Value

A list with message, actions, and raw.

ravel_collect_context *Collect context for a Ravel chat turn*

Description

Collect context for a Ravel chat turn

Usage

```
ravel_collect_context(  
  include_selection = TRUE,  
  include_file = TRUE,  
  include_objects = TRUE,  
  include_console = TRUE,  
  include_plot = TRUE,  
  include_session = TRUE,  
  include_project = TRUE,  
  include_git = TRUE,  
  include_activity = TRUE,  
  envir = NULL,  
  max_objects = 10L  
)
```

Arguments

include_selection	Include the active selection.
include_file	Include the active file contents.
include_objects	Include summaries of loaded objects.
include_console	Include recent Ravel-managed console output.
include_plot	Include current plot metadata when available.
include_session	Include session information.
include_project	Include project root and file listing.
include_git	Include git status and diff summaries when available.
include_activity	Include recent Ravel action state.
envir	Environment used for object summaries. When NULL, Ravel reads from the current global workspace without modifying it.
max_objects	Maximum number of objects to summarize.

Value

A named list.

ravel_doctor	<i>Inspect local Ravel readiness</i>
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Description

Inspect local Ravel readiness

Usage

```
ravel_doctor()
```

Value

A tibble of system and provider checks with suggested fixes.

ravel_draft_quarto_section	<i>Draft a Quarto section from analysis context</i>
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Description

Draft a Quarto section from analysis context

Usage

```
ravel_draft_quarto_section(
  section = c("results", "methods", "diagnostics"),
  model = NULL,
  context = NULL,
  include_chunk = TRUE
)
```

Arguments

section	Section type.
model	Optional fitted model object.
context	Optional collected context.
include_chunk	Whether to include a placeholder code chunk.

Value

A character string containing Quarto markdown.

ravel_get_setting *Get a Ravel setting*

Description

Get a Ravel setting

Usage

```
ravel_get_setting(key, default = NULL)
```

Arguments

key	Setting name.
default	Default value when the setting is missing.

Value

The setting value.

ravel_interpret_model *Interpret a model in plain English*

Description

Interpret a model in plain English

Usage

```
ravel_interpret_model(model)
```

Arguments

model	A fitted model object.
-------	------------------------

Value

A character string.

ravel_launch_login *Launch an official provider login flow*

Description

Launch an official provider login flow

Usage

```
ravel_launch_login(  
  provider = c("openai", "copilot", "gemini", "anthropic"),  
  mode = NULL  
)
```

Arguments

provider	Provider name.
mode	Optional auth mode override.

Value

A login plan list, invisibly.

ravel_list_project_files
 List project files for context gathering

Description

List project files for context gathering

Usage

```
ravel_list_project_files(root = NULL, limit = 200L)
```

Arguments

root	Optional project root.
limit	Maximum number of file paths to return.

Value

A character vector of relative paths.

ravel_list_providers	<i>List configured providers</i>
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Description

List configured providers

Usage

```
ravel_list_providers()
```

Value

A tibble describing the available provider adapters.

ravel_login	<i>Start a provider login flow</i>
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Description

Start a provider login flow

Usage

```
ravel_login(  
  provider = c("openai", "copilot", "gemini", "anthropic"),  
  mode = NULL  
)
```

Arguments

provider	Provider name.
mode	Optional auth mode override.

Value

A list describing the supported login action.

ravel_logout	<i>Logout a provider from Ravel-managed credentials</i>
--------------	---

Description

Logout a provider from Ravel-managed credentials

Usage

```
ravel_logout(provider = c("openai", "copilot", "gemini", "anthropic"))
```

Arguments

provider	Provider name.
----------	----------------

Value

Invisibly TRUE.

ravel_new_action	<i>Create a new staged Ravel action</i>
------------------	---

Description

Create a new staged Ravel action

Usage

```
ravel_new_action(type, label, payload, provider = NULL, model = NULL)
```

Arguments

type	Action type.
label	Human-readable label.
payload	Action payload.
provider	Optional provider name.
model	Optional model name.

Value

A ravel_action object.

`ravel_open_provider_page`*Open an official provider documentation or key-management page*

Description

Open an official provider documentation or key-management page

Usage

```
ravel_open_provider_page(  
  provider = c("openai", "copilot", "gemini", "anthropic"),  
  page = c("docs", "api_keys")  
)
```

Arguments

<code>provider</code>	Provider name.
<code>page</code>	Which page to open.

Value

The opened URL, invisibly.

`ravel_preview_code`*Preview generated code as a staged action*

Description

Preview generated code as a staged action

Usage

```
ravel_preview_code(  
  code,  
  label = "Run generated R code",  
  provider = NULL,  
  model = NULL  
)
```

Arguments

<code>code</code>	R code text.
<code>label</code>	Label for the staged action.
<code>provider</code>	Optional provider name.
<code>model</code>	Optional model name.

Value

A ravel_action object.

```
ravel_provider_capabilities
```

Report provider capabilities

Description

Report provider capabilities

Usage

```
ravel_provider_capabilities(
  provider = c("openai", "copilot", "gemini", "anthropic")
)
```

Arguments

provider Provider name.

Value

A named list.

```
ravel_read_history      Read recent Ravel history entries
```

Description

Read recent Ravel history entries

Usage

```
ravel_read_history(limit = 100L)
```

Arguments

limit Maximum number of history entries to return.

Details

History stays in session memory by default. To mirror it to disk explicitly, configure `options(ravel.user_dirs = list(data = "<path>"))`.

Value

A tibble.

ravel_reject_action	<i>Reject a staged action</i>
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Description

Reject a staged action

Usage

```
ravel_reject_action(action)
```

Arguments

action	A <code>ravel_action</code> .
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Value

The updated action.

ravel_run_code	<i>Run R code with explicit approval semantics</i>
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Description

Run R code with explicit approval semantics

Usage

```
ravel_run_code(action, approve = FALSE, envir = NULL)
```

Arguments

action	Either a <code>ravel_action</code> or a character string of R code.
approve	Whether to approve and run immediately.
envir	Evaluation environment. When <code>NULL</code> , code runs in Ravel's dedicated session-scoped execution environment instead of <code>.GlobalEnv</code> .

Value

A structured result list.

ravel_settings_addin *Launch the Ravel settings addin*

Description

Launch the Ravel settings addin

Usage

```
ravel_settings_addin()
```

Value

Invisibly launches a Shiny gadget.

ravel_setup_addin *Launch the Ravel setup assistant*

Description

Launch the Ravel setup assistant

Usage

```
ravel_setup_addin()
```

Value

Invisibly launches a Shiny gadget.

ravel_set_api_key *Store an API key for a provider*

Description

Store an API key for a provider

Usage

```
ravel_set_api_key(  
  provider = c("openai", "gemini", "anthropic"),  
  key,  
  persist = TRUE  
)
```

Arguments

provider	Provider name.
key	API key value.
persist	Whether to try to persist the secret using keyring.

Value

The stored key, invisibly.

ravel_set_bearer_token *Store a bearer token for a provider*

Description

Store a bearer token for a provider

Usage

```
ravel_set_bearer_token(provider = c("gemini"), token, persist = TRUE)
```

Arguments

provider	Provider name.
token	Bearer token value.
persist	Whether to try to persist the token using keyring.

Value

The stored token, invisibly.

ravel_set_setting *Set a Ravel setting*

Description

Set a Ravel setting

Usage

```
ravel_set_setting(key, value)
```

Arguments

key	Setting name.
value	Setting value.

Details

Settings are stored in session memory by default. To mirror non-sensitive settings to disk explicitly, configure `options(ravel.user_dirs = list(config = "<path>"))` before calling this function.

Value

The written settings list, invisibly.

ravel_stage_file_write

Stage a file write action

Description

Stage a file write action

Usage

```
ravel_stage_file_write(
  path,
  text,
  append = FALSE,
  provider = NULL,
  model = NULL
)
```

Arguments

path	Target file path.
text	Text to write.
append	Whether to append instead of overwrite.
provider	Optional provider name.
model	Optional model name.

Value

A `ravel_action` object.

ravel_suggest_diagnostics
Suggest diagnostics for a model

Description

Suggest diagnostics for a model

Usage

```
ravel_suggest_diagnostics(model)
```

Arguments

model A fitted model object.

Value

A character vector of suggested checks.

ravel_summarize_model *Summarize a model object*

Description

Summarize a model object

Usage

```
ravel_summarize_model(model, name = NULL)
```

Arguments

model A fitted model object.
name Optional object name.

Value

A named list with model metadata and coefficient summaries.

`ravel_summarize_object`*Summarize an R object for provider context*

Description

Summarize an R object for provider context

Usage

```
ravel_summarize_object(x, name = NULL)
```

Arguments

<code>x</code>	An R object.
<code>name</code>	Optional object name.

Value

A named list.

`ravel_verify_provider` *Verify a provider with a tiny live prompt*

Description

Verify a provider with a tiny live prompt

Usage

```
ravel_verify_provider(  
  provider = c("openai", "copilot", "gemini", "anthropic"),  
  model = NULL  
)
```

Arguments

<code>provider</code>	Provider name.
<code>model</code>	Optional model override.

Value

A named list with `ok`, `content`, `provider`, and `model`.

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