

# Package ‘tidyAML’

April 20, 2023

**Title** Automatic Machine Learning with 'tidymodels'

**Version** 0.0.2

**Description** The goal of this package will be to provide a simple interface for automatic machine learning that fits the 'tidymodels' framework. The intention is to work for regression and classification problems with a simple verb framework.

**License** MIT + file LICENSE

**Encoding** UTF-8

**RoxygenNote** 7.2.3

**URL** <https://github.com/spsanderson/tidyAML>

**BugReports** <https://github.com/spsanderson/tidyAML/issues>

**Depends** parsnip, R (>= 3.4.0)

**Suggests** knitr, rmarkdown, roxygen2, stats, tibble, stringr, utils, recipes

**VignetteBuilder** knitr

**Imports** magrittr, rlang (>= 0.4.11), purrr (>= 0.3.5), dplyr (>= 1.0.10), rsample (>= 1.1.0), workflows (>= 1.1.2), forcats, workflowsets

**NeedsCompilation** no

**Author** Steven Sanderson [aut, cre, cph]

**Maintainer** Steven Sanderson <spsanderson@gmail.com>

**Repository** CRAN

**Date/Publication** 2023-04-20 13:40:02 UTC

## R topics documented:

|                               |   |
|-------------------------------|---|
| core_packages . . . . .       | 2 |
| create_model_spec . . . . .   | 3 |
| create_splits . . . . .       | 4 |
| create_workflow_set . . . . . | 5 |
| extract_model_spec . . . . .  | 6 |

|  |           |
|--|-----------|
| extract_wflw . . . . .                         | 7         |
| extract_wflw_fit . . . . .                     | 8         |
| extract_wflw_pred . . . . .                    | 9         |
| fast_classification . . . . .                  | 10        |
| fast_classification_parsnip_spec_tbl . . . . . | 11        |
| fast_regression . . . . .                      | 12        |
| fast_regression_parsnip_spec_tbl . . . . .     | 14        |
| get_model . . . . .                            | 15        |
| install_deps . . . . .                         | 16        |
| internal_make_fitted_wflw . . . . .            | 16        |
| internal_make_spec_tbl . . . . .               | 18        |
| internal_make_wflw . . . . .                   | 19        |
| internal_make_wflw_predictions . . . . .       | 20        |
| internal_set_args_to_tune . . . . .            | 21        |
| load_deps . . . . .                            | 22        |
| make_classification_base_tbl . . . . .         | 23        |
| make_regression_base_tbl . . . . .             | 23        |
| match_args . . . . .                           | 24        |
| <b>Index</b>                                   | <b>26</b> |

---

core\_packages

*Functions to Install all Core Libraries*

---

## Description

Lists the core packages necessary to run all potential modeling algorithms.

## Usage

```
core_packages()
```

## Details

Lists the core packages necessary to run all potential modeling algorithms.

## Value

A character vector

## Author(s)

Steven P. Sanderson II, MPH

## See Also

Other Utility: [create\\_splits\(\)](#), [create\\_workflow\\_set\(\)](#), [fast\\_classification\\_parsnip\\_spec\\_tbl\(\)](#), [fast\\_regression\\_parsnip\\_spec\\_tbl\(\)](#), [install\\_deps\(\)](#), [load\\_deps\(\)](#), [match\\_args\(\)](#)

## Examples

```
core_packages()
```

---

|                   |  |
|-------------------|--|
| create_model_spec | <i>Generate Model Specification calls to parsnip</i> |
|-------------------|--|

---

## Description

Creates a list/tibble of parsnip model specifications.

## Usage

```
create_model_spec(  
  .parsnip_eng = list("lm"),  
  .mode = list("regression"),  
  .parsnip_fns = list("linear_reg"),  
  .return_tibble = TRUE  
)
```

## Arguments

|                |  |
|----------------|--|
| .parsnip_eng   | The input must be a list. The default for this is set to all. This means that all of the parsnip <b>linear regression engines</b> will be used, for example lm, or glm. You can also choose to pass a c() vector like c('lm', 'glm')                                       |
| .mode          | The input must be a list. The default is 'regression'  |
| .parsnip_fns   | The input must be a list. The default for this is set to all. This means that all of the parsnip <b>linear regression</b> functions will be used, for example linear_reg(), or cubist_rules. You can also choose to pass a c() vector like c("linear_reg", "cubist_rules") |
| .return_tibble | The default is TRUE. FALSE will return a list object.  |

## Details

Creates a list/tibble of parsnip model specifications. With this function you can generate a list/tibble output of any model specification and engine you choose that is supported by the parsnip ecosystem.

## Value

A list or a tibble.

## Author(s)

Steven P. Sanderson II, MPH

**See Also**

Other Model\_Generator: [fast\\_classification\(\)](#), [fast\\_regression\(\)](#)

**Examples**

```
create_model_spec(
  .parsnip_eng = list("lm", "glm", "glmnet", "cubist"),
  .parsnip_fns = list(
    rep(
      "linear_reg", 3),
    "cubist_rules"
  )
)

create_model_spec(
  .parsnip_eng = list("lm", "glm", "glmnet", "cubist"),
  .parsnip_fns = list(
    rep(
      "linear_reg", 3),
    "cubist_rules"
  ),
  .return_tibble = FALSE
)
```

---

 create\_splits

*Utility Create Splits Object*


---

**Description**

Create a splits object.

**Usage**

```
create_splits(.data, .split_type = "initial_split", .split_args = NULL)
```

**Arguments**

|                          |   |
|--------------------------|---|
| <code>.data</code>       | The data being passed to make a split on  |
| <code>.split_type</code> | The default is "initial_split", you can pass any other split type from the <code>rsample</code> library.  |
| <code>.split_args</code> | The default is <code>NULL</code> in order to use the default split arguments. If you want to pass other arguments then must pass a list with the parameter name and the argument. |

**Details**

Create a splits object that returns a list object of both the splits object itself and the splits type. This function supports all splits types from the `rsample` package.

**Value**

A list object

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Utility: [core\\_packages\(\)](#), [create\\_workflow\\_set\(\)](#), [fast\\_classification\\_parsnip\\_spec\\_tbl\(\)](#), [fast\\_regression\\_parsnip\\_spec\\_tbl\(\)](#), [install\\_deps\(\)](#), [load\\_deps\(\)](#), [match\\_args\(\)](#)

**Examples**

```
create_splits(mtcars, .split_type = "vfold_cv")
```

---

create\_workflow\_set     *Create a Workflow Set Object*

---

**Description**

Create a workflow set object tibble from a model spec tibble.

**Usage**

```
create_workflow_set(.model_tbl = NULL, .recipe_list = list(), .cross = TRUE)
```

**Arguments**

|                           |  |
|---------------------------|--|
| <code>.model_tbl</code>   | The model table that is generated from a function like <code>fast_regression_parsnip_spec_tbl()</code> . The model spec column will be grabbed automatically as the class of the object must be <code>tidyml_base_tbl</code> |
| <code>.recipe_list</code> | Provide a list of recipes here that will get added to the workflow set object.   |
| <code>.cross</code>       | The default is TRUE, can be set to FALSE. This is passed to the cross parameter as an argument to the <code>workflow_set()</code> function.  |

**Details**

Create a workflow set object/tibble from a model spec tibble where the object class type is `tidyml_base_tbl`. This function will take in a list of recipes and will grab the model specifications from the base tibble to create the workflow sets object. You can also supply the logical of TRUE/FALSE the `.cross` parameter which gets passed to the corresponding parameter as an argument to the `workflowsets::workflow_set()` function.

**Value**

A list object of workflows.

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

<https://workflowsets.tidymodels.org/>

Other Utility: `core_packages()`, `create_splits()`, `fast_classification_parsnip_spec_tbl()`, `fast_regression_parsnip_spec_tbl()`, `install_deps()`, `load_deps()`, `match_args()`

**Examples**

```
library(recipes)

rec_obj <- recipe(mpg ~ ., data = mtcars)
spec_tbl <- fast_regression_parsnip_spec_tbl(
  .parsnip_fns = "linear_reg",
  .parsnip_eng = c("lm", "glm")
)

create_workflow_set(
  spec_tbl,
  list(rec_obj)
)
```

---

extract\_model\_spec      *Extract A Model Specification*

---

**Description**

Extract a model specification from a tidyAML model tibble.

**Usage**

```
extract_model_spec(.data, .model_id = NULL)
```

**Arguments**

|                        |  |
|------------------------|--|
| <code>.data</code>     | The model table that must have the class <code>tidyaml_mod_spec_tbl</code> .   |
| <code>.model_id</code> | The model number that you want to select, Must be an integer or sequence of integers, ie. 1 or <code>c(1, 3, 5)</code> or <code>1:2</code> |

**Details**

This function allows you to get a model specification or more from a tibble with a class of `"tidyaml_mod_spec_tbl"`. It allows you to select the model by the `.model_id` column. You can call the model id's by an integer or a sequence of integers.

**Value**

A tibble with the chosen model specification(s).

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Extractor: [extract\\_wflw\\_fit\(\)](#), [extract\\_wflw\\_pred\(\)](#), [extract\\_wflw\(\)](#), [get\\_model\(\)](#)

**Examples**

```
library(recipes)

rec_obj <- recipe(mpg ~ ., data = mtcars)
spec_tbl <- fast_regression_parsnip_spec_tbl(
  .parsnip_fns = "linear_reg",
  .parsnip_eng = c("lm", "glm")
)

extract_model_spec(spec_tbl, 1)
extract_model_spec(spec_tbl, 1:2)
```

---

extract\_wflw

*Extract A Model Workflow*

---

**Description**

Extract a model workflow from a tidyAML model tibble.

**Usage**

```
extract_wflw(.data, .model_id = NULL)
```

**Arguments**

|                        |  |
|------------------------|--|
| <code>.data</code>     | The model table that must have the class <code>tidyaml_mod_spec_tbl</code> .   |
| <code>.model_id</code> | The model number that you want to select, Must be an integer or sequence of integers, ie. 1 or <code>c(1, 3, 5)</code> or <code>1:2</code> |

**Details**

This function allows you to get a model workflow or more from a tibble with a class of `"tidyaml_mod_spec_tbl"`. It allows you to select the model by the `.model_id` column. You can call the model id's by an integer or a sequence of integers.

**Value**

A tibble with the chosen model workflow(s).

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Extractor: [extract\\_model\\_spec\(\)](#), [extract\\_wflw\\_fit\(\)](#), [extract\\_wflw\\_pred\(\)](#), [get\\_model\(\)](#)

**Examples**

```
library(recipes)

rec_obj <- recipe(mpg ~ ., data = mtcars)
firt_tbl <- fast_regression(mtcars, rec_obj, .parsnip_eng = c("lm", "glm"),
                           .parsnip_fns = "linear_reg")

extract_wflw(firt_tbl, 1)
extract_wflw(firt_tbl, 1:2)
```

---

extract\_wflw\_fit

*Extract A Model Fitted Workflow*

---

**Description**

Extract a model fitted workflow from a tidyAML model tibble.

**Usage**

```
extract_wflw_fit(.data, .model_id = NULL)
```

**Arguments**

|                        |  |
|------------------------|--|
| <code>.data</code>     | The model table that must have the class <code>tidyaml_mod_spec_tbl</code> .   |
| <code>.model_id</code> | The model number that you want to select, Must be an integer or sequence of integers, ie. 1 or <code>c(1, 3, 5)</code> or <code>1:2</code> |

**Details**

This function allows you to get a model fitted workflow or more from a tibble with a class of "tidyaml\_mod\_spec\_tbl". It allows you to select the model by the `.model_id` column. You can call the model id's by an integer or a sequence of integers.

**Value**

A tibble with the chosen model workflow(s).



**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Extractor: [extract\\_model\\_spec\(\)](#), [extract\\_wflw\\_pred\(\)](#), [extract\\_wflw\(\)](#), [get\\_model\(\)](#)

**Examples**

```
library(recipes)

rec_obj <- recipe(mpg ~ ., data = mtcars)
frit_tbl <- fast_regression(mtcars, rec_obj, .parsnip_eng = c("lm", "glm"),
                           .parsnip_fns = "linear_reg")

extract_wflw_fit(frit_tbl, 1)
extract_wflw_fit(frit_tbl, 1:2)
```

---

extract\_wflw\_pred      *Extract A Model Workflow Predictions*

---

**Description**

Extract a model workflow predictions from a tidyAML model tibble.

**Usage**

```
extract_wflw_pred(.data, .model_id = NULL)
```

**Arguments**

|                        |  |
|------------------------|--|
| <code>.data</code>     | The model table that must have the class <code>tidyaml_mod_spec_tbl</code> .   |
| <code>.model_id</code> | The model number that you want to select, Must be an integer or sequence of integers, ie. 1 or <code>c(1,3,5)</code> or <code>1:2</code> |

**Details**

This function allows you to get a model workflow predictions or more from a tibble with a class of "tidyaml\_mod\_spec\_tbl". It allows you to select the model by the `.model_id` column. You can call the model id's by an integer or a sequence of integers.

**Value**

A tibble with the chosen model workflow(s).

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Extractor: [extract\\_model\\_spec\(\)](#), [extract\\_wflw\\_fit\(\)](#), [extract\\_wflw\(\)](#), [get\\_model\(\)](#)

**Examples**

```
library(recipes)

rec_obj <- recipe(mpg ~ ., data = mtcars)
firt_tbl <- fast_regression(mtcars, rec_obj, .parsnip_eng = c("lm", "glm"),
                          .parsnip_fns = "linear_reg")

extract_wflw_pred(firt_tbl, 1)
extract_wflw_pred(firt_tbl, 1:2)
```

---

fast\_classification    *Generate Model Specification calls to parsnip*

---

**Description**

Creates a list/tibble of parsnip model specifications.

**Usage**

```
fast_classification(
  .data,
  .rec_obj,
  .parsnip_fns = "all",
  .parsnip_eng = "all",
  .split_type = "initial_split",
  .split_args = NULL
)
```

**Arguments**

|              |   |
|--------------|---|
| .data        | The data being passed to the function for the classification problem  |
| .rec_obj     | The recipe object being passed.   |
| .parsnip_fns | The default is 'all' which will create all possible classification model specifications supported.                        |
| .parsnip_eng | the default is 'all' which will create all possible classification model specifications supported.                        |
| .split_type  | The default is 'initial_split', you can pass any type of split supported by rsample                                       |
| .split_args  | The default is NULL, when NULL then the default parameters of the split type will be executed for the rsample split type. |

**Details**

With this function you can generate a tibble output of any classification model specification and its fitted workflow object. Per recipes documentation explicitly with `step_string2factor()` it is encouraged to mutate your predictor into a factor before you create your recipe.

**Value**

A list or a tibble.

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Model\_Generator: [create\\_model\\_spec\(\)](#), [fast\\_regression\(\)](#)

**Examples**

```
library(recipes, quietly = TRUE)
library(dplyr, quietly = TRUE)

df <- mtcars %>% mutate(cyl = as.factor(cyl))
rec_obj <- recipe(cyl ~ ., data = df)

fct_tbl <- fast_classification(
  .data = df,
  .rec_obj = rec_obj,
  .parsnip_eng = c("glm", "LiblineaR"))

glimpse(fct_tbl)
```

---

fast\_classification\_parsnip\_spec\_tbl

*Utility Classification call to parsnip*

---

**Description**

Creates a tibble of parsnip classification model specifications.

**Usage**

```
fast_classification_parsnip_spec_tbl(
  .parsnip_fns = "all",
  .parsnip_eng = "all"
)
```

**Arguments**

- `.parsnip_fns` The default for this is set to `all`. This means that all of the parsnip **classification** functions will be used, for example `bag_mars()`, or `bart()`. You can also choose to pass a `c()` vector like `c("barg_mars", "bart")`
- `.parsnip_eng` The default for this is set to `all`. This means that all of the parsnip **classification engines** will be used, for example `earth`, or `dbarts`. You can also choose to pass a `c()` vector like `c('earth', 'dbarts')`

**Details**

Creates a tibble of parsnip classification model specifications. This will create a tibble of 32 different classification model specifications which can be filtered. The model specs are created first and then filtered out. This will only create models for **classification** problems. To find all of the supported models in this package you can visit <https://www.tidymodels.org/find/parsnip/>

**Value**

A tibble with an added class of `'fst_class_spec_tbl'`

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Utility: [core\\_packages\(\)](#), [create\\_splits\(\)](#), [create\\_workflow\\_set\(\)](#), [fast\\_regression\\_parsnip\\_spec\\_tbl\(\)](#), [install\\_deps\(\)](#), [load\\_deps\(\)](#), [match\\_args\(\)](#)

**Examples**

```
fast_classification_parsnip_spec_tbl(.parsnip_fns = "logistic_reg")
fast_classification_parsnip_spec_tbl(.parsnip_eng = c("earth", "dbarts"))
```

---

fast\_regression

*Generate Model Specification calls to parsnip*

---

**Description**

Creates a list/tibble of parsnip model specifications.

**Usage**

```
fast_regression(  
  .data,  
  .rec_obj,  
  .parsnip_fns = "all",  
  .parsnip_eng = "all",  
  .split_type = "initial_split",  
  .split_args = NULL  
)
```

**Arguments**

|                           |  |
|---------------------------|--|
| <code>.data</code>        | The data being passed to the function for the regression problem   |
| <code>.rec_obj</code>     | The recipe object being passed.  |
| <code>.parsnip_fns</code> | The default is 'all' which will create all possible regression model specifications supported.   |
| <code>.parsnip_eng</code> | the default is 'all' which will create all possible regression model specifications supported.   |
| <code>.split_type</code>  | The default is 'initial_split', you can pass any type of split supported by <code>rsample</code>                                       |
| <code>.split_args</code>  | The default is NULL, when NULL then the default parameters of the split type will be executed for the <code>rsample</code> split type. |

**Details**

With this function you can generate a tibble output of any regression model specification and it's fitted workflow object.

**Value**

A list or a tibble.

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Model\_Generator: [create\\_model\\_spec\(\)](#), [fast\\_classification\(\)](#)

**Examples**

```
library(recipes, quietly = TRUE)  
library(dplyr, quietly = TRUE)  
  
rec_obj <- recipe(mpg ~ ., data = mtcars)  
frt_tbl <- fast_regression(mtcars, rec_obj, .parsnip_eng = c("lm", "glm"),  
  .parsnip_fns = "linear_reg")  
glimpse(frt_tbl)
```

---

`fast_regression_parsnip_spec_tbl`*Utility Regression call to parsnip*

---

## Description

Creates a tibble of parsnip regression model specifications.

## Usage

```
fast_regression_parsnip_spec_tbl(.parsnip_fns = "all", .parsnip_eng = "all")
```

## Arguments

- `.parsnip_fns` The default for this is set to `all`. This means that all of the parsnip **linear regression** functions will be used, for example `linear_reg()`, or `cubist_rules`. You can also choose to pass a `c()` vector like `c("linear_reg", "cubist_rules")`
- `.parsnip_eng` The default for this is set to `all`. This means that all of the parsnip **linear regression engines** will be used, for example `lm`, or `glm`. You can also choose to pass a `c()` vector like `c('lm', 'glm')`

## Details

Creates a tibble of parsnip regression model specifications. This will create a tibble of 46 different regression model specifications which can be filtered. The model specs are created first and then filtered out. This will only create models for **regression** problems. To find all of the supported models in this package you can visit <https://www.tidymodels.org/find/parsnip/>

## Value

A tibble with an added class of `'fst_reg_spec_tbl'`

## Author(s)

Steven P. Sanderson II, MPH

## See Also

Other Utility: [core\\_packages\(\)](#), [create\\_splits\(\)](#), [create\\_workflow\\_set\(\)](#), [fast\\_classification\\_parsnip\\_spec\\_tbl](#), [install\\_deps\(\)](#), [load\\_deps\(\)](#), [match\\_args\(\)](#)

## Examples

```
fast_regression_parsnip_spec_tbl(.parsnip_fns = "linear_reg")
fast_regression_parsnip_spec_tbl(.parsnip_eng = c("lm", "glm"))
```

---

|           |                    |
|-----------|--------------------|
| get_model | <i>Get a Model</i> |
|-----------|--------------------|

---

**Description**

Get a model from a tidyAML model tibble.

**Usage**

```
get_model(.data, .model_id = NULL)
```

**Arguments**

|           |  |
|-----------|--|
| .data     | The model table that must have the class <code>tidyaml_mod_spec_tbl</code> .   |
| .model_id | The model number that you want to select, Must be an integer or sequence of integers, ie. 1 or <code>c(1, 3, 5)</code> or <code>1:2</code> |

**Details**

This function allows you to get a model or models from a tibble with a class of `"tidyaml_mod_spec_tbl"`. It allows you to select the model by the `.model_id` column. You can call the model id's by an integer or a sequence of integers.

**Value**

A tibble with the chosen models.

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Extractor: [extract\\_model\\_spec\(\)](#), [extract\\_wflw\\_fit\(\)](#), [extract\\_wflw\\_pred\(\)](#), [extract\\_wflw\(\)](#)

**Examples**

```
library(recipes)

rec_obj <- recipe(mpg ~ ., data = mtcars)
spec_tbl <- fast_regression_parsnip_spec_tbl(
  .parsnip_fns = "linear_reg",
  .parsnip_eng = c("lm", "glm")
)

get_model(spec_tbl, 1)
get_model(spec_tbl, 1:2)
```

---

`install_deps`*Functions to Install all Core Libraries*

---

**Description**

Installs all dependencies in the `core_packages()` function.

**Usage**

```
install_deps()
```

**Details**

Installs all dependencies in the `core_packages()` function.

**Value**

No return value, called for side effects

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Utility: [core\\_packages\(\)](#), [create\\_splits\(\)](#), [create\\_workflow\\_set\(\)](#), [fast\\_classification\\_parsnip\\_spec\\_tbl\(\)](#), [fast\\_regression\\_parsnip\\_spec\\_tbl\(\)](#), [load\\_deps\(\)](#), [match\\_args\(\)](#)

**Examples**

```
## Not run:  
  install_deps()  
  
## End(Not run)
```

---

`internal_make_fitted_wflw`*Internals Safely Make a Fitted Workflow from Model Spec tibble*

---

**Description**

Safely Make a fitted workflow from a model spec tibble.

**Usage**

```
internal_make_fitted_wflw(.model_tbl, .splits_obj)
```



## Arguments

- `.model_tbl` The model table that is generated from a function like `fast_regression_parsnip_spec_tbl()`, must have a class of `"tidyml_mod_spec_tbl"`. This is meant to be used after the function `internal_make_wflw()` has been run and the tibble has been saved.
- `.splits_obj` The splits object from the `auto_ml` function. It is internal to the `auto_ml` function.

## Details

Create a fitted parsnip model from a workflow object.

## Value

A list object of workflows.

## Author(s)

Steven P. Sanderson II, MPH

## See Also

Other Internals: [internal\\_make\\_spec\\_tbl\(\)](#), [internal\\_make\\_wflw\\_predictions\(\)](#), [internal\\_make\\_wflw\(\)](#), [internal\\_set\\_args\\_to\\_tune\(\)](#), [make\\_classification\\_base\\_tbl\(\)](#), [make\\_regression\\_base\\_tbl\(\)](#)

## Examples

```
library(recipes, quietly = TRUE)
library(dplyr, quietly = TRUE)

mod_spec_tbl <- fast_regression_parsnip_spec_tbl(
  .parsnip_eng = c("lm", "glm", "gee"),
  .parsnip_fns = "linear_reg"
)

rec_obj <- recipe(mpg ~ ., data = mtcars)
splits_obj <- create_splits(mtcars, "initial_split")

mod_tbl <- mod_spec_tbl %>%
  mutate(wflw = internal_make_wflw(mod_spec_tbl, rec_obj))

internal_make_fitted_wflw(mod_tbl, splits_obj)
```

---

`internal_make_spec_tbl`*Internals Make a Model Spec tibble*

---

**Description**

Make a Model Spec tibble.

**Usage**

```
internal_make_spec_tbl(.data)
```

**Arguments**

`.data` This is the data that should be coming from inside of the regression/classification to parsnip spec functions.

**Details**

Make a Model Spec tibble.

**Value**

A model spec tbl.

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Internals: [internal\\_make\\_fitted\\_wflw\(\)](#), [internal\\_make\\_wflw\\_predictions\(\)](#), [internal\\_make\\_wflw\(\)](#), [internal\\_set\\_args\\_to\\_tune\(\)](#), [make\\_classification\\_base\\_tbl\(\)](#), [make\\_regression\\_base\\_tbl\(\)](#)

**Examples**

```
make_regression_base_tbl() %>%  
  internal_make_spec_tbl()
```

```
make_classification_base_tbl() %>%  
  internal_make_spec_tbl()
```

---

|                    |  |
|--------------------|--|
| internal_make_wflw | <i>Internals Safely Make Workflow from Model Spec tibble</i> |
|--------------------|--|

---

**Description**

Safely Make a workflow from a model spec tibble.

**Usage**

```
internal_make_wflw(.model_tbl, .rec_obj)
```

**Arguments**

|                         |  |
|-------------------------|--|
| <code>.model_tbl</code> | The model table that is generated from a function like <code>fast_regression_parsnip_spec_tbl()</code> , must have a class of "tidyml_mod_spec_tbl". |
| <code>.rec_obj</code>   | The recipe object that is going to be used to make the workflow object.  |

**Details**

Create a model specification tibble that has a `workflows::workflow()` list column.

**Value**

A list object of workflows.

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Internals: [internal\\_make\\_fitted\\_wflw\(\)](#), [internal\\_make\\_spec\\_tbl\(\)](#), [internal\\_make\\_wflw\\_predictions\(\)](#), [internal\\_set\\_args\\_to\\_tune\(\)](#), [make\\_classification\\_base\\_tbl\(\)](#), [make\\_regression\\_base\\_tbl\(\)](#)

**Examples**

```
library(recipes, quietly = TRUE)
library(dplyr, quietly = TRUE)

mod_spec_tbl <- fast_regression_parsnip_spec_tbl(
  .parsnip_eng = c("lm", "glm", "gee"),
  .parsnip_fns = "linear_reg"
)

rec_obj <- recipe(mpg ~ ., data = mtcars)

internal_make_wflw(mod_spec_tbl, rec_obj)
```

---

```
internal_make_wflw_predictions
```

*Internals Safely Make Predictions on a Fitted Workflow from Model Spec tibble*

---

## Description

Safely Make predictions on a fitted workflow from a model spec tibble.

## Usage

```
internal_make_wflw_predictions(.model_tbl, .splits_obj)
```

## Arguments

|                          |   |
|--------------------------|---|
| <code>.model_tbl</code>  | The model table that is generated from a function like <code>fast_regression_parsnip_spec_tbl()</code> , must have a class of "tidyml_mod_spec_tbl". This is meant to be used after the function <code>internal_make_fitted_wflw()</code> has been run and the tibble has been saved. |
| <code>.splits_obj</code> | The splits object from the <code>auto_ml</code> function. It is internal to the <code>auto_ml</code> function.  |

## Details

Create predictions on a fitted parnsip model from a workflow object.

## Value

A list object of workflows.

## Author(s)

Steven P. Sanderson II, MPH

## See Also

Other Internals: [internal\\_make\\_fitted\\_wflw\(\)](#), [internal\\_make\\_spec\\_tbl\(\)](#), [internal\\_make\\_wflw\(\)](#), [internal\\_set\\_args\\_to\\_tune\(\)](#), [make\\_classification\\_base\\_tbl\(\)](#), [make\\_regression\\_base\\_tbl\(\)](#)

## Examples

```
library(recipes, quietly = TRUE)
library(dplyr, quietly = TRUE)

mod_spec_tbl <- fast_regression_parsnip_spec_tbl(
  .parsnip_eng = c("lm", "glm", "gee"),
  .parsnip_fns = "linear_reg"
)
```

```
rec_obj <- recipe(mpg ~ ., data = mtcars)
splits_obj <- create_splits(mtcars, "initial_split")

mod_tbl <- mod_spec_tbl %>%
  mutate(wflw = internal_make_wflw(mod_spec_tbl, rec_obj))

mod_fitted_tbl <- mod_tbl %>%
  mutate(fitted_wflw = internal_make_fitted_wflw(mod_tbl, splits_obj))

internal_make_wflw_predictions(mod_fitted_tbl, splits_obj)
```

---

internal\_set\_args\_to\_tune

*Internals Make a Tunable Model Specification*

---

## Description

Make a tuned model specification object.

## Usage

```
internal_set_args_to_tune(.model_tbl)
```

## Arguments

`.model_tbl` The model table that is generated from a function like `fast_regression_parsnip_spec_tbl()`, must have a class of "tidyml\_mod\_spec\_tbl".

## Details

This will take a model specification that is created from a function like `fast_regression_parsnip_spec_tbl()` and update the **model\_spec** args to `tune::tune()`. This is done dynamically, meaning you do not need to know the names of the parameters inside of the model specification.

## Value

A list object of workflows.

## Author(s)

Steven P. Sanderson II, MPH

## See Also

Other Internals: `internal_make_fitted_wflw()`, `internal_make_spec_tbl()`, `internal_make_wflw_predictions()`, `internal_make_wflw()`, `make_classification_base_tbl()`, `make_regression_base_tbl()`

**Examples**

```
library(dplyr)

mod_tbl <- fast_regression_parsnip_spec_tbl()
mod_tbl$model_spec[[1]]

updated_mod_tbl <- mod_tbl %>%
  mutate(model_spec = internal_set_args_to_tune(mod_tbl))
updated_mod_tbl$model_spec[[1]]
```

---

load\_deps

*Functions to Install all Core Libraries*

---

**Description**

Load all the core packages necessary to run all potential modeling algorithms.

**Usage**

```
load_deps()
```

**Details**

Load all the core packages necessary to run all potential modeling algorithms.

**Value**

No return value, called for side effects

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Utility: [core\\_packages\(\)](#), [create\\_splits\(\)](#), [create\\_workflow\\_set\(\)](#), [fast\\_classification\\_parsnip\\_spec\\_tbl\(\)](#), [fast\\_regression\\_parsnip\\_spec\\_tbl\(\)](#), [install\\_deps\(\)](#), [match\\_args\(\)](#)

**Examples**

```
## Not run:
load_deps()

## End(Not run)
```

---

`make_classification_base_tbl`*Internals Make Base Classification Tibble*

---

**Description**

Creates a base tibble to create parsnip classification model specifications.

**Usage**

```
make_classification_base_tbl()
```

**Details**

Creates a base tibble to create parsnip classification model specifications.

**Value**

A tibble

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Internals: [internal\\_make\\_fitted\\_wflw\(\)](#), [internal\\_make\\_spec\\_tbl\(\)](#), [internal\\_make\\_wflw\\_predictions\(\)](#), [internal\\_make\\_wflw\(\)](#), [internal\\_set\\_args\\_to\\_tune\(\)](#), [make\\_regression\\_base\\_tbl\(\)](#)

**Examples**

```
make_classification_base_tbl()
```

---

`make_regression_base_tbl`*Internals Make Base Regression Tibble*

---

**Description**

Creates a base tibble to create parsnip regression model specifications.

**Usage**

```
make_regression_base_tbl()
```

**Details**

Creates a base tibble to create parsnip regression model specifications.

**Value**

A tibble

**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Internals: [internal\\_make\\_fitted\\_wflw\(\)](#), [internal\\_make\\_spec\\_tbl\(\)](#), [internal\\_make\\_wflw\\_predictions\(\)](#), [internal\\_make\\_wflw\(\)](#), [internal\\_set\\_args\\_to\\_tune\(\)](#), [make\\_classification\\_base\\_tbl\(\)](#)

**Examples**

```
make_regression_base_tbl()
```

---

match\_args

*Match function arguments*

---

**Description**

Match a functions arguments.

**Usage**

```
match_args(f, args)
```

**Arguments**

|      |  |
|------|--|
| f    | The parsnip function such as "linear_reg" as a string and without the parentheses. |
| args | The arguments you want to supply to f  |

**Details**

Match a functions arguments, the bad ones passed will be rejected but the remaining passing ones will be returned.

**Value**

A list of matched arguments.



**Author(s)**

Steven P. Sanderson II, MPH

**See Also**

Other Utility: [core\\_packages\(\)](#), [create\\_splits\(\)](#), [create\\_workflow\\_set\(\)](#), [fast\\_classification\\_parsnip\\_spec\\_tbl\(\)](#), [fast\\_regression\\_parsnip\\_spec\\_tbl\(\)](#), [install\\_deps\(\)](#), [load\\_deps\(\)](#)

**Examples**

```
library(parsnip)

match_args(
  f = "linear_reg",
  args = list(
    mode = "regression",
    engine = "lm",
    trees = 1,
    mtry = 1
  )
)
```

# Index

- \* **Extractor**
  - extract\_model\_spec, 6
  - extract\_wflw, 7
  - extract\_wflw\_fit, 8
  - extract\_wflw\_pred, 9
  - get\_model, 15
- \* **Internals**
  - internal\_make\_fitted\_wflw, 16
  - internal\_make\_spec\_tbl, 18
  - internal\_make\_wflw, 19
  - internal\_make\_wflw\_predictions, 20
  - internal\_set\_args\_to\_tune, 21
  - make\_classification\_base\_tbl, 23
  - make\_regression\_base\_tbl, 23
- \* **Model Generator**
  - create\_model\_spec, 3
  - fast\_classification, 10
  - fast\_regression, 12
- \* **Utility**
  - core\_packages, 2
  - create\_splits, 4
  - create\_workflow\_set, 5
  - fast\_classification\_parsnip\_spec\_tbl, 11
  - fast\_regression\_parsnip\_spec\_tbl, 14
  - install\_deps, 16
  - load\_deps, 22
  - match\_args, 24
- core\_packages, 2, 5, 6, 12, 14, 16, 22, 25
- create\_model\_spec, 3, 11, 13
- create\_splits, 2, 4, 6, 12, 14, 16, 22, 25
- create\_workflow\_set, 2, 5, 5, 12, 14, 16, 22, 25
- extract\_model\_spec, 6, 8–10, 15
- extract\_wflw, 7, 7, 9, 10, 15
- extract\_wflw\_fit, 7, 8, 8, 10, 15
- extract\_wflw\_pred, 7–9, 9, 15
- fast\_classification, 4, 10, 13
- fast\_classification\_parsnip\_spec\_tbl, 2, 5, 6, 11, 14, 16, 22, 25
- fast\_regression, 4, 11, 12
- fast\_regression\_parsnip\_spec\_tbl, 2, 5, 6, 12, 14, 16, 22, 25
- fast\_regression\_parsnip\_spec\_tbl(), 21
- get\_model, 7–10, 15
- install\_deps, 2, 5, 6, 12, 14, 16, 22, 25
- internal\_make\_fitted\_wflw, 16, 18–21, 23, 24
- internal\_make\_spec\_tbl, 17, 18, 19–21, 23, 24
- internal\_make\_wflw, 17, 18, 19, 20, 21, 23, 24
- internal\_make\_wflw\_predictions, 17–19, 20, 21, 23, 24
- internal\_set\_args\_to\_tune, 17–20, 21, 23, 24
- load\_deps, 2, 5, 6, 12, 14, 16, 22, 25
- make\_classification\_base\_tbl, 17–21, 23, 24
- make\_regression\_base\_tbl, 17–21, 23, 23
- match\_args, 2, 5, 6, 12, 14, 16, 22, 24
- workflows::workflow(), 19
- workflowsets::workflow\_set(), 5