

Package ‘microdemic’

November 20, 2020

Type Package

Title 'Microsoft Academic' API Client

Description The 'Microsoft Academic Knowledge' API provides programmatic access to scholarly articles in the 'Microsoft Academic Graph' (<<https://academic.microsoft.com/>>). Includes methods matching all 'Microsoft Academic' API routes, including search, graph search, text similarity, and interpret natural language query string.

Version 0.6.0

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LazyData TRUE

Encoding UTF-8

Language en-US

URL <https://github.com/ropensci/microdemic> (devel),
<https://docs.ropensci.org/microdemic/> (website)

BugReports <https://github.com/ropensci/microdemic/issues>

Imports crul (>= 0.5.2), jsonlite (>= 1.5), data.table, tibble,
httplib (>= 0.2.0)

Suggests testthat, vcr (>= 0.2.2)

RoxygenNote 7.1.1

X-schema.org-applicationCategory Literature

X-schema.org-keywords text-mining, literature, pdf, xml, publications,
citations, full-text

X-schema.org-isPartOf <https://ropensci.org>

NeedsCompilation no

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microdemic-package	<i>microdemic</i>
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Description

Microsoft Academic Client

Links

- web interface: <https://academic.microsoft.com/>
- API docs:
- <https://docs.microsoft.com/en-us/academic-services/project-academic-knowledge/introduction>

Package API

- [ma_search\(\)](#)
- [ma_calchist\(\)](#)
- [ma_evaluate\(\)](#)
- [ma_interpret\(\)](#)
- [ma_abstract\(\)](#)

Authentication

See Microsoft Academic docs link above to get an API key. Make sure you enable Academic Knowledge. They should give you two API keys - use either one. You can always pass your API key as a parameter to functions in `microdemic`, but we strongly encourage you to set an environment variable, named `MICROSOFT_ACADEMIC_KEY`

To set the environment variable for the current R session only, run `Sys.setenv(MICROSOFT_ACADEMIC_KEY = "yourkey")`. Then `microdemic` will pick up this key and you do not have to pass your key as a parameter to the functions.

Even better, save your environment variable in the file that R will use to read in environment variables like `MICROSOFT_ACADEMIC_KEY=yourkey`. This may vary by system and machine. See `?Startup` for details. It's likely your `.Renviron` file that is stored in your home directory. Or could be another environment variable holding file like `.zshrc` or `.bash_profile`. After saving the file, make sure to quit R, source that file like `source .Renviron`, then start R again. Or restart your RStudio session or similar for other R scenarios.

Rate limits

- 10,000 transactions per day
- 3 per second for interpret
- 1 per second for evaluate
- 6 per minute for calcHistogram

Author(s)

Scott Chamberlain

ma_abstract

Fetch abstracts

Description

Fetch abstracts

Usage

```
ma_abstract(  
  query,  
  count = 10,  
  offset = 0,  
  orderby = NULL,  
  model = "latest",  
  key = NULL,  
  ...  
)
```

Arguments

query	(character) query terms
count	(integer) number of records to return. default: 10
offset	(integer) record number to start at. default: 0
orderby	(logical) column by which to order. default: none
model	(character) Name of the model that you wish to query. One of 'latest' or 'beta-2015'. Default: latest
key	(character) microsoft academic API key, see the Authentication section in microdemic-package
...	curl options passed on to curl::HttpClient

Value

data.frame, with two columns: Id and abstract

Note

articles without abstract are removed, so number returned may not equal number requested with the count parameter

Examples

```
## Not run:
ma_abstract(query = "Y=2010", count = 10)
ma_abstract(query = "Y=[2010, 2012]", count = 10)

## End(Not run)
```

ma_calchist

CalcHistogram API

Description

CalcHistogram API

Usage

```
ma_calchist(
  query,
  count = 10,
  offset = 0,
  atts = c("Id", "AA.AuN", "J.JN", "Ti", "Y", "CC"),
  model = "latest",
  key = NULL,
  ...
)
```

Arguments

query	(character) query terms
count	(integer) number of records to return. default: 10
offset	(integer) record number to start at. default: 0
atts	(character) fields to return, in a character vector. See https://docs.microsoft.com/en-us/academic-services/project-academic-knowledge/reference-entity-attributes for details.
model	(character) Name of the model that you wish to query. One of 'latest' or 'beta-2015'. Default: latest
key	(character) microsoft academic API key, see the Authentication section in microdemic-package
...	curl options passed on to crul::HttpClient

Examples

```
## Not run:
res <- ma_calchist(query = "And(Composite(AA.AuN=='jaime teevan'),Y>2012)",
  atts = c('Y', 'F.FN'))
res$histograms$histogram

## End(Not run)
```

ma_evaluate

*Evaluate API***Description**

Evaluate API

Usage

```
ma_evaluate(
  query,
  count = 10,
  offset = 0,
  orderby = NULL,
  atts = c("Id", "AA.AuN", "J.JN", "Ti", "Y", "CC"),
  model = "latest",
  key = NULL,
  ...
)
```

Arguments

query	(character) query terms
count	(integer) number of records to return. default: 10
offset	(integer) record number to start at. default: 0
orderby	(logical) column by which to order. default: none
atts	(character) fields to return, in a character vector. See https://docs.microsoft.com/en-us/academic-services/project-academic-knowledge/reference-entity-attributes for details.
model	(character) Name of the model that you wish to query. One of 'latest' or 'beta-2015'. Default: latest
key	(character) microsoft academic API key, see the Authentication section in microademic-package
...	curl options passed on to <code>curl::HttpClient</code>

Value

a list of length two, with `expr` (character) and `entities` (data.frame)

References

Query expression syntax <https://docs.microsoft.com/en-us/academic-services/project-academic-knowledge/reference-query-expression-syntax>

Examples

```
## Not run:
# any numeric value that starts with 19
ma_evaluate(query = "Y='19'...")
# author name matching, and request certain fields back
ma_evaluate(query = "Composite(AA.AuN=='smith')",
  atts = c('Id', 'AA.AuN'))
# matching year 2010 and request Id and Y fields
ma_evaluate(query = "Y=2010", atts = c('Id', 'Y'))
# range of years: includes only left boundary value: 2010, 2012
ma_evaluate(query = "Y=[2010, 2012)", atts = c('Id', 'Y'))
# range by specific dates
ma_evaluate(query = "D=['2010-02-03','2010-02-05']", atts = c('Id', 'Y'))
# matching author and matching affiliation
x <- "Composite(And(AA.AuN='mike smith',AA.AfN='harvard university'))"
ma_evaluate(x)

## End(Not run)
```

ma_interpret

Interpret API

Description

Interpret API

Usage

```
ma_interpret(query, count = 10, offset = 0, complete = TRUE, key = NULL, ...)
```

Arguments

query	(character) query terms
count	(integer) number of records to return. default: 10
offset	(integer) record number to start at. default: 0
complete	(logical) TRUE means that auto-completion suggestions are generated based on the grammar and graph data. default: TRUE
key	(character) microsoft academic API key, see the Authentication section in microdemic-package
...	curl options passed on to curl::HttpClient

References

<https://docs.microsoft.com/en-us/academic-services/project-academic-knowledge/reference-interpret-method>

Examples

```
## Not run:
res <- ma_interpret(query = "papers by jaime'...")
res$query
res$interpretations
res$interpretations$parse
res$interpretations$rules
res$interpretations$rules[[1]]

expr <- res$interpretations$rules[[1]]$output.value
ma_evaluate(expr)

## End(Not run)
```

ma_search

Search - higher level method

Description

Search - higher level method

Usage

```
ma_search(
  query,
  count = 10,
  offset = 0,
  orderby = NULL,
  atts = c("Id", "AA.AuN", "J.JN", "Ti", "Y", "CC"),
  model = "latest",
  key = NULL,
  ...
)
```

Arguments

query	(character) query terms
count	(integer) number of records to return. default: 10
offset	(integer) record number to start at. default: 0
orderby	(logical) column by which to order. default: none

atts	(character) fields to return, in a character vector. See https://docs.microsoft.com/en-us/academic-services/project-academic-knowledge/reference-entity-attributes for details.
model	(character) Name of the model that you wish to query. One of 'latest' or 'beta-2015'. Default: latest
key	(character) microsoft academic API key, see the Authentication section in microdemic-package
...	curl options passed on to crul::HttpClient

References

<https://academic.microsoft.com/> <https://www.microsoft.com/en-us/research/project/academic-knowledge/>
<https://docs.microsoft.com/en-us/academic-services/project-academic-knowledge/introduction>

Examples

```
## Not run:  
ma_search(query = "Y='19'...")  
  
## End(Not run)
```


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