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# **acres Documentation**

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acres is an acronym expansion module based on word embeddings and filtering rules.

We provided here auto-generated module by module documentation only.



## MODULE DOCUMENTATION

### 1.1 acres package

Root package.

#### 1.1.1 Subpackages

##### acres.evaluation package

Package containing evaluation modules.

###### Submodules

###### acres.evaluation.evaluation module

Benchmark code. It's the main entry point for comparing strategies using evaluation metrics such as precision, recall, and F1-score.

`class acres.evaluation.evaluation.Level(value)`

Bases: `enum.Enum`

Enum that holds acronym-solving levels.

`TOKEN = 1`

`TYPE = 2`

`acres.evaluation.evaluation.analyze(contextualized_acronym, true_expansions, strategy, max_tries)`

Analyze a given row of the gold standard.

###### Parameters

- `contextualized_acronym` (`Acronym`) –
- `true_expansions` (`Set[str]`) –
- `strategy` (`Strategy`) –
- `max_tries` (`int`) –

**Return type** `Dict[str, bool]`

**Returns** A dictionary with keys {‘found’, ‘correct’, and ‘ignored’} pointing to boolean.

```
acres.evaluation.evaluation.do_analysis(topics_file, detection_file, expansion_file, strategy, level,  
max_tries, lenient)
```

Analyze a given expansion standard.

#### Parameters

- **topics\_file** (str) –
- **detection\_file** (str) –
- **expansion\_file** (str) –
- **strategy** (*Strategy*) –
- **level** (*Level*) –
- **max\_tries** (int) –
- **lenient** (bool) –

**Return type** Tuple[List[*Acronym*], List[*Acronym*], List[*Acronym*]]

**Returns** A tuple with lists containing correct, found, and valid contextualized acronyms

```
acres.evaluation.evaluation.evaluate(topics, valid_standard, standard, strategy, level, max_tries, lenient)
```

Analyze a gold standard with text excerpts centered on an acronym, followed by  $n$  valid expansions.

#### Parameters

- **topics** (List[*Acronym*]) –
- **valid\_standard** (Set[str]) –
- **standard** (Dict[str, Dict[str, int]]) –
- **strategy** (*Strategy*) –
- **level** (*Level*) –
- **max\_tries** (int) –
- **lenient** (bool) – Whether to consider partial matches (1) as a valid sense.

**Return type** Tuple[List[*Acronym*], List[*Acronym*], List[*Acronym*]]

**Returns** A tuple with lists containing correct, found, and valid contextualized acronyms

```
acres.evaluation.evaluation.plot_data(topics_file, detection_file, expansion_file)
```

Run all strategies using different ranks and lenient approaches and generate a TSV file to be used as input for the *plots.R* script.

#### Parameters

- **topics\_file** (str) –
- **detection\_file** (str) –
- **expansion\_file** (str) –

#### Returns

```
acres.evaluation.evaluation.summary(topics_file, detection_file, expansion_file, level, max_tries, lenient)
```

Save a summary table in TSV format that can be used to run statistical tests (e.g. McNemar Test)

#### Parameters

- **topics\_file** (str) –
- **detection\_file** (str) –

- **expansion\_file** (str) –
- **level** ([Level](#)) –
- **max\_tries** (int) –
- **lenient** (bool) –

**Returns**

`acres.evaluation.evaluation.test_input(true_expansions, possible_expansions, max_tries=10)`  
Test an acronym + context strings against the model.

**Parameters**

- **true\_expansions** (Set[str]) –
- **possible\_expansions** (List[str]) – An ordered list of possible expansions.
- **max\_tries** (int) – Maximum number of tries

**Return type** bool**Returns**

## acres.evaluation.metrics module

Helper functions to calculate evaluation metrics.

`acres.evaluation.metrics.calculate_f1(precision, recall)`  
Calculates the F1-score.

**Parameters**

- **precision** (float) –
- **recall** (float) –

**Return type** float**Returns**

`acres.evaluation.metrics.calculate_precision(total_correct, total_found)`  
Calculate precision as the ratio of correct acronyms to the found acronyms.

**Parameters**

- **total\_correct** (int) –
- **total\_found** (int) –

**Return type** float**Returns**

`acres.evaluation.metrics.calculate_recall(total_correct, total_acronyms)`  
Calculate recall as the ratio of correct acronyms to all acronyms.

**Parameters**

- **total\_correct** (int) –
- **total\_acronyms** (int) –

**Return type** float**Returns**

## acres.fastngram package

Package containing a full in-memory implementation of n-gram matching.

### Submodules

#### acres.fastngram.fastngram module

A faster version of n-gram matching that uses dictionaries for speed-up.

**class** acres.fastngram.fastngram.CenterMap

Bases: object

A map of center words to contexts.

**add**(center, left\_context, right\_context, freq)

Add a center n-gram with a context.

##### Parameters

- **center** (str) –
- **left\_context** (str) –
- **right\_context** (str) –
- **freq** (int) –

**Return type** None

##### Returns

**contexts**(center)

Find contexts for a given center word.

##### Parameters center –

##### Returns

**class** acres.fastngram.fastngram.ContextMap

Bases: object

A map of contexts to center words.

**add**(center, left\_context, right\_context, freq)

Add a center n-gram with a context.

##### Parameters

- **center** (str) –
- **left\_context** (str) –
- **right\_context** (str) –
- **freq** (int) –

**Return type** None

##### Returns

**centers**(left\_context, right\_context)

Find center n-grams that happen on a given context.

##### Parameters

- **left\_context** –
- **right\_context** –

**Returns**

```
acres.fastngram.fastngram.baseline(acronym, left_context='', right_context='')
```

A baseline method that expands only with unigrams.

**Parameters**

- **acronym** (str) –
- **left\_context** (str) –
- **right\_context** (str) –

**Return type** Iterator[str]**Returns**

```
acres.fastngram.fastngram.create_map(ngrams, model, partition=0)
```

Create a search-optimized representation of an ngram-list.

**Parameters**

- **ngrams** (Dict[str, int]) –
- **model** (Union[ContextMap, CenterMap]) –
- **partition** (int) –

**Return type** Union[ContextMap, CenterMap]**Returns**

```
acres.fastngram.fastngram.fastngram(acronym, left_context='', right_context='', min_freq=2,  
max_rank=100000)
```

Find an unlimited set of expansion candidates for an acronym given its left and right context. Note that no filtering is done here, except from the acronym initial partitioning.

**Parameters**

- **acronym** (str) –
- **left\_context** (str) –
- **right\_context** (str) –
- **min\_freq** (int) –
- **max\_rank** (int) –

**Return type** Iterator[str]**Returns**

```
acres.fastngram.fastngram.fasttype(acronym, left_context='', right_context='', min_freq=2,  
max_rank=100000)
```

Find an unlimited set of expansion candidates given the training contexts of the acronym. Note that no filtering is done here, except from the acronym initial partitioning.

**Parameters**

- **acronym** (str) –
- **left\_context** (str) – Not used.
- **right\_context** (str) – Not used.

- **min\_freq** (int) –
- **max\_rank** (int) –

**Return type** Iterator[str]

**Returns**

## acres.model package

Package containing domain models (from the MVC design pattern).

### Submodules

#### acres.model.detection\_standard module

Model class that represents a detection standard. A detection standard works like a allow/block list to filter out inputs from the topic list that are not proper acronyms (e.g. *BEFUND*, *III*). Such inputs are then not considered for evaluation purposes.

It is designed as an append-only list (i.e., entries do not need to be updated with variable inputs).

`acres.model.detection_standard.filter_valid(std)`

Filter out invalid entries from a gold standard. Invalid entries are not proper acronyms or repeated types.

**Parameters** `standard` (Dict[str, bool]) –

**Return type** Set[str]

**Returns**

`acres.model.detection_standard.parse(filename)`

Parses a .tsv-formatted detection standard into a dictionary.

**Parameters** `filename` (str) –

**Return type** Dict[str, bool]

**Returns**

`acres.model.detection_standard.parse_valid(filename)`

Wrapper method for both `parse` and `filter_valid`.

**Parameters** `filename` (str) –

**Return type** Set[str]

**Returns**

`acres.model.detection_standard.update(previous, acronyms)`

Update a previous detection standard with new acronyms from a topic list, preserving order.

**Parameters**

- **previous** (Dict[str, bool]) –
- **acronyms** (List[[Acronym](#)]) –

**Return type** Dict[str, bool]

**Returns**

```
acres.model.detection_standard.write(filename, standard)
```

Write a detection standard into a file.

**Parameters**

- **filename** (str) –
- **standard** (Dict[str, bool]) –

**Return type** None

**Returns**

## acres.model.expansion\_standard module

Model class that represents an expansion standard. An expansion standard is the main reference standard containing acronyms-expansion pairs and their evaluation following the TREC standard (2/1/0).

It is designed as an append-only list (i.e., entries do not need to be updated with variable inputs).

```
acres.model.expansion_standard.parse(filename)
```

Parse a TSV-separated expansion standard into a dictionary.

**Parameters** **filename** (str) –

**Return type** Dict[str, Dict[str, int]]

**Returns** A dictionary with acronyms pointing to expansions and an assessment value.

```
acres.model.expansion_standard.write(filename, previous, valid, topics)
```

Write results in the TREC format, one candidate expansion per line.

**Parameters**

- **filename** (str) –
- **previous** (Dict[str, Dict[str, int]]) – A dictionary of acronyms mapped to their senses and assesments (if any).
- **valid** (Set[str]) – A set of valid acronyms, normally parsed from a detection standard.
- **topics** (List[*Acronym*]) – A topic list.

**Return type** None

**Returns**

## acres.model.ngrams module

Module to handle n-gram lists.

```
class acres.model.ngrams.FilteredNGramStat(ngram_size)
```

Bases: object

Filtered NGramStat generator

This generator generates ngrams of a given size out of a ngramstat.txt file, while respecting each ngram frequency.

@todo ngramstat itself should be a generator

```
PRINT_INTERVAL = 1000000
```

```
TOKEN_SEPARATOR = ' '
```

`acres.model.ngrams.filter_acronym_contexts(ngrams)`

Filter an iterable of tokens by the ones containing an acronym in the middle and convert them to Acronym tuples.

**Parameters** `ngrams` (Iterator[List[str]]) –

**Return type** Iterator[[Acronym](#)]

**Returns**

**acres.model.topic\_list module**

Model class that represents a topic list. A topic list is used as main input (a la TREC) and thus can control which acronyms (together with their contexts) are to be considered for evaluation. A topic list can be used, e.g., to quickly switch between different evaluation scenarios such as acronyms collected from either the training or test dataset.

`acres.model.topic_list.create(filename, chance, ngram_size=7)`

Create a topic list out of random n-grams with a given chance and size.

**Parameters**

- `filename` (str) –
- `chance` (float) –
- `ngram_size` (int) –

**Returns**

`acres.model.topic_list.parse(filename)`

Parses a TSV-formatted topic list into a list of acronyms (with context).

**Parameters** `filename` (str) –

**Return type** List[[Acronym](#)]

**Returns**

`acres.model.topic_list.unique_types(topics)`

Extract types from a topic list.

**Parameters** `topics` (List[[Acronym](#)]) –

**Return type** Set[str]

**Returns**

**acres.preprocess package**

Package containing modules for pre-processing the corpus and a resource factory to easily access pre-processed files.

**Submodules**

**acres.preprocess.dumps module**

Module to process the corpus training data and create data structures for speed-up retrieval.

`acres.preprocess.dumps.create_corpus_ngramstat_dump(corpus_path, min_freq, min_length=1, max_length=7)`

Takes a corpus consisting of text files in a single directory Substitutes digits and line breaks It requires that all documents are in UTF-8 text. It can perform substitutions of digits.

**Parameters**

- **corpus\_path** (str) –
- **min\_freq** (int) –
- **min\_length** (int) –
- **max\_length** (int) –

**Return type** Dict[str, int]**Returns**acres.preprocess.dumps.**create\_indexed\_ngrams**(*ngrams*)

Create an indexed version of a ngram list. This basically adds an unique identifier to every (str, int) tuple.

**Parameters** **ngrams** (Dict[str, int]) –**Return type** Dict[int, Tuple[int, str]]**Returns****acres.preprocess.resource\_factory module**

Resource factory. This module provides methods for lazily loading resources.

acres.preprocess.resource\_factory.**get\_center\_map**(*partition*=0)

Lazy load the fast n-gram center map model.

**Return type** CenterMap**Returns**acres.preprocess.resource\_factory.**get\_context\_map**(*partition*=0)

Lazy load the fast n-gram context map model.

**Return type** ContextMap**Returns**acres.preprocess.resource\_factory.**get\_dictionary**()

Lazy load the sense inventory.

**Return type** Dict[str, List[str]]**Returns**acres.preprocess.resource\_factory.**get\_ngramstat**()

Lazy load an indexed representation of ngrams.

Loading order is as follows: 1. Variable; 2. Pickle file; 3. Generation.

**Return type** Dict[int, Tuple[int, str]]**Returns** A dictionary of identifiers mapped to ngrams. Ngrams are tuples with the frequency and the corresponding ngram.acres.preprocess.resource\_factory.**get\_nn\_model**(*ngram\_size*=3, *min\_count*=1, *net\_size*=100,  
*alpha*=0.025, *sg*=0, *hs*=0, *negative*=5)

Lazy load a word2vec model.

**Parameters**

- **ngram\_size** (int) –

- **min\_count** (int) –
- **net\_size** (int) –
- **alpha** (float) –
- **sg** (int) –
- **hs** (int) –
- **negative** (int) –

**Return type** Word2Vec

**Returns**

acres.preprocess.resource\_factory.**get\_word\_ngrams()**

Lazy load a not-indexed representation of ngrams.

Loading order is as follows: 1. Variable; 2. Pickle file; 3. Generation.

**Return type** Dict[str, int]

**Returns**

acres.preprocess.resource\_factory.**reset()**

Resets global variables to force model recreation.

**Return type** None

**Returns**

acres.preprocess.resource\_factory.**warmup\_cache()**

Warms up the cache of pickle and txt files by calling all the methods.

**Return type** None

**Returns**

acres.preprocess.resource\_factory.**write\_txt(resource, filename)**

Writes a tab-separated representation of a dictionary into a file specified by filename.

**Parameters**

- **resource** (Dict[str, int]) –
- **filename** (str) –

**Return type** int

**Returns**

## acres.rater package

Package with rating modules. Rating modules are used to filter out candidate expansions provided by expansion strategies.

## Submodules

### acres.rater.expansion module

Rating submodule for expansion (acronym + full form) checks.

`acres.rater.expansion.is_expansion_valid(acro, full)`

Check whether an expansion is valid for a given acronym.

#### Parameters

- **acro** (str) –
- **full** (str) –

**Return type** bool

**Returns**

### acres.rater.full module

Rating submodule for full form checks.

`acres.rater.full.is_full_valid(full)`

Check whether the full form is valid.

#### Parameters **full** (str) –

**Return type** bool

**Returns**

### acres.rater.rater module

Rating main module.

`acres.rater.rater.get_acronym_score(acro, full)`

Scores acronym/resolution pairs according to a series of well-formedness criteria.

This scoring function should be used only for cleaned and normalized full forms.

For forms that may contain acronym-definition pairs, see `get_acronym_definition_pair_score`. For forms that should be checked for variants, see `get_acronym_score_variants`.

TODO Consider again morphosaurus checks.

TODO Full form should not be an acronym itself.

#### Parameters

- **acro** (str) – Acronym to be expanded.
- **full** (str) – Long form to be checked whether it qualifies as an acronym expansion.

**Return type** float

**Returns** score that rates the likelihood that the full form is a valid expansion of the acronym.

## acres.resolution package

Package with a facade to the several expansion strategies.

### Submodules

#### acres.resolution.resolver module

Facade to the several expansion strategies.

**class** acres.resolution.resolver.Strategy(*value*)

Bases: enum.IntEnum

Enum that holds acronym-solving strategies.

**BASELINE** = 5

**DICTIONARY** = 3

**FASTNGRAM** = 4

**FASTTYPE** = 6

**WORD2VEC** = 2

acres.resolution.resolver.filtered\_resolve(*acronym*, *left\_context*, *right\_context*, *strategy*)

Resolve a given acronym + context using the provided Strategy and filter out invalid expansions.

#### Parameters

- **acronym** (str) –
- **left\_context** (str) –
- **right\_context** (str) –
- **strategy** ([Strategy](#)) –

**Return type** Iterator[str]

#### Returns

acres.resolution.resolver.resolve(*acronym*, *left\_context*, *right\_context*, *strategy*)

Resolve a given acronym + context using the provided Strategy.

#### Parameters

- **acronym** (str) –
- **left\_context** (str) –
- **right\_context** (str) –
- **strategy** ([Strategy](#)) –

**Return type** List[str]

#### Returns

## acres.stats package

Package with modules to collect statistics from the gold-standard (*senses*), the training corpus (*stats*), and a fixed sense inventory (*dictionary*).

### Submodules

#### acres.stats.dictionary module

Module to collect metrics from a sense inventory. This module can be used to debug the sense inventory e.g. by detecting extreme expansions. It can also be used to debug methods that relies on real data.

`acres.stats.dictionary.analyze_file(filename)`

Analyzes a given dictionary file for extreme cases.

**Parameters** `filename` (str) –

**Return type** None

**Returns**

`acres.stats.dictionary.edit_distance_generated_acro(acro, full)`

Calculates the edit distance between the original acronym and the generated acronym out of the full form.

**Parameters**

- `acro` (str) –

- `full` (str) –

**Return type** Optional[Tuple]

**Returns**

`acres.stats.dictionary.expand(acronym, left_context='', right_context='')`

**Parameters**

- `acronym` (str) –

- `left_context` (str) –

- `right_context` (str) –

**Return type** List[str]

**Returns**

`acres.stats.dictionary.parse(filename)`

Parse a tab-separated sense inventory as a Python dictionary.

**Parameters** `filename` (str) –

**Return type** Dict[str, List[str]]

**Returns**

`acres.stats.dictionary.ratio_acro_words(acro, full)`

Calculates the ratio of acronym length to the number of words in the full form.

**Parameters**

- `acro` (str) –

- **full** (str) –

**Return type** Tuple

**Returns**

```
acres.stats.dictionary.show_extremes(txt, lst, lowest_n=10, highest_n=10)
```

**Parameters**

- **txt** (str) –
- **lst** (List) –
- **lowest\_n** (int) –
- **highest\_n** (int) –

**Return type** None

**Returns**

## acres.stats.senses module

Module to estimate acronym ambiguity. It can be used to collect common acronym statistics, such as senses/acronym.

```
acres.stats.senses.bucketize(acronyms)
```

Reduce: calculate the number of different acronyms for each degree of ambiguity.

**Parameters** **acronyms** (Dict[str, Set[str]]) –

**Return type** Dict[int, int]

**Returns**

```
acres.stats.senses.get_sense_buckets(filename)
```

Parses a reference standard and get a map of senses per acronym.

**Parameters** **filename** (str) –

**Return type** Dict[str, Set[str]]

**Returns**

```
acres.stats.senses.map_senses_acronym(std, lenient=False)
```

Map: collect senses for each acronym.

**Parameters**

- **standard** (Dict[str, Dict[str, int]]) –
- **lenient** (bool) – Whether to consider partial matches (1) as a valid sense.

**Return type** Dict[str, Set[str]]

**Returns**

```
acres.stats.senses.print_ambiguous(filename)
```

Print ambiguous acronyms, the ones with more than one sense according to the reference standard.

**Parameters** **filename** (str) –

**Return type** None

**Returns**

`acres.stats.senses.print_senses(filename)`

Print the distribution of senses per acronym.

**Parameters** `filename` (str) –

**Return type** None

**Returns**

`acres.stats.senses.print_undefined(filename)`

Print undefined acronyms, the ones with no valid sense according to the reference standard.

**Parameters** `filename` (str) –

**Return type** None

**Returns**

## acres.stats.stats module

Module for calculating corpus statistics. It is used to measure the training/test dataset according to, e.g., number of tokens.

`class acres.stats.stats.Stats`

Bases: object

Class that generates and holds stats about a given text.

`calc_stats(text)`

Calculates statistics for a given text string and sets the results as variables.

**Parameters** `text` (str) –

**Return type** None

**Returns**

`static count_acronyms(text)`

Count the number of acronyms in a string.

Acronyms are as defined by the `acronym.is_acronym()` function.

**Parameters** `text` (str) –

**Return type** int

**Returns**

`static count_acronyms_types(text)`

Count the number of unique acronyms in a string.

Acronyms are as defined by the `acronym.is_acronym()` function.

**Parameters** `text` (str) –

**Return type** int

**Returns**

`static count_chars(text)`

Count the number of non-whitespace chars in a string.

**Parameters** `text` (str) –

**Return type** int

**Returns**

**static count\_sentences(*text*)**

Count the number of sentences in a string.

Sentences are any string separated by *line\_separator*.

**Parameters** **text** (str) –

**Return type** int

**Returns**

**static count\_tokens(*text*)**

Count the number of all tokens in a string.

**Parameters** **text** (str) –

**Return type** int

**Returns**

**static count\_types(*text*)**

Count the number of unique tokens (types) in a string.

**Parameters** **text** (str) –

**Return type** int

**Returns**

**source\_line\_separator = '\n'**

**acres.stats.stats.get\_stats(*corpus\_path*)**

Generates all statistics from a given corpus directory.

**Parameters** **corpus\_path** (str) –

**Return type** List[*Stats*]

**Returns** A list of statistics objects, one for each file found in the corpus dir, plus an extra one for the full corpus.

**acres.stats.stats.print\_stats()**

Generates and print statistics from the default corpus set in config.

**Return type** None

**Returns** None

## acres.util package

Package with general utilities modules.

## Submodules

### acres.util.acronym module

Utility functions related to acronyms.

**class** acres.util.acronym.Acronym(*acronym, left\_context, right\_context*)  
Bases: tuple

**property acronym**  
Alias for field number 0

**property left\_context**  
Alias for field number 1

**property right\_context**  
Alias for field number 2

acres.util.acronym.create\_german\_acronym(*full*)  
Creates an acronym out of a given multi-word expression.

@todo Use is\_stopword?

**Parameters** **full** (str) – A full form containing whitespaces.

**Return type** str

**Returns**

acres.util.acronym.is\_acronym(*str\_probe, max\_length=7*)

Identifies Acronyms, restricted by absolute length XXX look for “authoritative” definitions for acronyms

**Parameters**

- **str\_probe** (str) –
- **max\_length** (int) –

**Return type** bool

**Returns**

acres.util.acronym.trim\_plural(*acronym*)

Trim the german plural form out of an acronym.

@todo rewrite as regex

**Parameters** **acronym** (str) –

**Return type** str

**Returns**

## acres.util.functions module

Module with general functions.

`acres.util.functions.create_ngram_statistics(input_string, n_min, n_max)`

Creates a dictionary that counts each nGram in an input string. Delimiters are spaces.

Example: bigrams and trigrams nMin = 2 , nMax = 3 PROBE: # print(WordNgramStat('a ab aa a a a ba ddd', 1, 4))

### Parameters

- `input_string` (str) –
- `n_min` (int) –
- `n_max` (int) –

**Return type** Dict[str, int]

### Returns

`acres.util.functions.import_conf(key)`

**Parameters** `key` (str) –

**Return type** Optional[str]

### Returns

`acres.util.functions.is_stopword(str_in)`

Tests whether word is stopword, according to list.

For German, source <http://snowball.tartarus.org/algorithms/german/stop.txt>

**Parameters** `str_in` (str) –

**Return type** bool

### Returns

`acres.util.functions.partition(word, partitions)`

Find a bucket for a given word.

### Parameters

- `word` (str) –
- `partitions` (int) –

**Return type** int

### Returns

`acres.util.functions.robust_text_import_from_dir(path)`

Read the content of valid text files from a path into a list of strings.

**Parameters** `path` (str) – The path to look for documents.

**Return type** List[str]

**Returns** A list of strings containing the content of each valid file.

`acres.util.functions.sample(iterable, chance)`

Randomly sample items from an iterable with a given chance.

### Parameters

- **iterable** (Iterable) –
- **chance** (float) –

**Return type** Iterable

**Returns**

## acres.util.text module

Utility functions related to text processing.

`acres.util.text.clean(text, preserve_linebreaks=False)`

Clean a given text to preserve only alphabetic characters, spaces, and, optionally, line breaks.

**Parameters**

- **text** (str) –
- **preserve\_linebreaks** (bool) –

**Return type** str

**Returns**

`acres.util.text.clean_whitespaces(whitespaced)`

Clean up an input string of repeating and trailing whitespaces.

**Parameters** `whitespaced` (str) –

**Return type** str

**Returns**

`acres.util.text.clear_digits(str_in, substitute_char)`

Substitutes all digits by a character (or string)

Example: `ClearDigits("Vitamin B12", "o")`:

TODO rewrite as regex

**Parameters**

- **str\_in** (str) –
- **substitute\_char** (str) –

**Return type** str

`acres.util.text.reduce_repeated_chars(str_in, char, remaining_chars)`

**Parameters**

- **str\_in** (str) – text to be cleaned
- **char** (str) – character that should not occur more than `remaining_chars` times in sequence
- **remaining\_chars** (int) – `remaining_chars`

**Return type** str

**Returns**

`acres.util.text.remove_duplicated_whitespaces(whitespaced)`

Clean up an input string out of any number of repeated whitespaces.

**Parameters** `whitespaced` (str) –

**Return type** str

**Returns**

## acres.word2vec package

Package grouping modules related to the word2vec expansion strategy.

### Submodules

#### acres.word2vec.test module

Module to apply/test a given word2vec model.

`acres.word2vec.test.find_candidates(acronym, left_context='', right_context='', min_distance=0.0, max_rank=500)`

Similar to robust\_find\_embeddings, this finds possible expansions of a given acronym.

**Parameters**

- `acronym` (str) –
- `left_context` (str) –
- `right_context` (str) –
- `min_distance` (float) –
- `max_rank` (int) –

**Return type** Iterator[str]

**Returns**

#### acres.word2vec.train module

Trainer for word2vec embeddings based on an idea originally proposed by Johannes Hellrich ([https://github.com/JULIELab/hellrich\\_dh2016](https://github.com/JULIELab/hellrich_dh2016)).

`acres.word2vec.train.train(ngram_size=6, min_count=1, net_size=100, alpha=0.025, sg=1, hs=0, negative=5)`

Lazy load a word2vec model.

**Parameters**

- `ngram_size` (int) –
- `min_count` (int) –
- `net_size` (int) –
- `alpha` (float) –
- `sg` (int) –
- `hs` (int) –
- `negative` (int) –

**Return type** Word2Vec

**Returns**

### 1.1.2 Submodules

### 1.1.3 acres.constants module

Module with global constants.



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