UFSCar

Zenodotus - Quick Guide

June 23, 2017

Contents

1 | Introduction and Download

Zenodotus is a library that aims to make easy the access to the NELL's knowledge base.[1].

Zenodotus is a project in development and can be downloaded at:

`https://github.com/wesleywilly/Zenodotus`

---

[1]NELL: Never-Ending Language Learning `http://rtw.ml.cmu.edu`

2 | Methods

2.1 List Getters

2.1.1 Get Categories List

Returns a JSONArray with all NELL's categories of KB beliefs.

JSON structure

```
root:Object
└─ categories_list:Array
     ├─ (0):Object
     │   ├─ link:String
     │   ├─ category_name:String
     ├─ ...
```

Java API

```java
1  package zenodotusexampleofuse;
2
3  import WebCrawlers.Zenodotus;
4  import org.json.simple.JSONArray;
5
6  public class CategoriesList {
7
8      public static void main(String[] args) {
9          JSONArray categoriesList = Zenodotus.getCategoriesList();
10     }
11 }
```

Command-line

Calling Get Categories List and showing in command-interface

```
1  java -jar zenodotus.jar -gcl
```

Calling Get Categories List and saving results in a file

```
1  java −jar zenodotus.jar −gcl −s result.json
```

2.1.2 Get Relations List

Returns a JSONArray with all NELL's relations of KB beliefs.

JSON structure

```
root:Object
 └─ relation_list:Array
     ├─ (0):Object
     │    ├─ link:String
     │    │
     │    └─ relation_name:String
     └─ ...
```

Java API

```java
1  package zenodotusexampleofuse;
2
3  import WebCrawlers.Zenodotus;
4  import org.json.simple.JSONArray;
5
6  public class CategoriesList {
7
8      public static void main(String[] args) {
9          JSONArray relationsList = Zenodotus.getRelationsList();
10     }
11 }
```

Command-line

Calling Get Relations List and showing in command-interface

```
1  java −jar zenodotus.jar −grl
```

Calling Get Relations List and saving results in a file

```
1  java −jar zenodotus.jar −grl −s result.json
```

2.2 Getters Methods

2.2.1 Get Category

Returns a JSONObject represents an specific category with its instances.

Parameter:

- Predicate: Is the category name as it's known by NELL.

JSON structure

```
root:Object
├── category_name:String
├── link:String
├── category_prologue:String
├── metadata:Object
│   └── extractionPatterns:Array
│       ├── (0):String
│       └── ...
├── category_instances:Array
    ├── (0):Object
    │   ├── instance_name:String
    │   ├── instance_confidence:String
    │   ├── instance_interation:String
    │   ├── instance_datalearned:String
    │   └── link:String
    └── ...
```

Java API

```java
package zenodotusexampleofuse;

import WebCrawlers.Zenodotus;
import org.json.simple.JSONArray;
import org.json.simple.JSONObject;

public class CategoriesList {

    public static void main(String[] args) {
        JSONObject category = Zenodotus.getCategory("movie");
    }
}
```

Command-line

Calling *Get Category* and showing in command-interface

```
1  java −jar zenodotus.jar −gc movie
```

Calling *Get Category* and saving results in a file

```
1  java −jar zenodotus.jar −gc movie −s result.json
```

2.2.2   Get Relation

Returns a JSONObject represents an specific relation with its instances.

Parameter:

- Predicate: Is the relation name as it's known by NELL.

JSON structure

```
root:Object
  ├─ relation_name:String
  ├─ link:String
  ├─ relation_prologue:String
  ├─ relation_domain:Object
  │    ├─ category_name:String
  │    ├─ link:String
  ├─ relation_range:Object
  │    ├─ category_name:String
  │    ├─ link:String
  ├─ metadata:Object
  │    └─ extractionPatterns:Array
  │         ├─ (0):String
  │         ├─ ...
  ├─ relation_instances:Array
       ├─ (0):Object
       │    ├─ instance_arg1:String
       │    ├─ instance_arg2:String
       │    ├─ instance_confidence:String
       │    ├─ instance_interation:String
       │    ├─ instance_datalearned:String
       ├─ ...
```

Java API

```java
1  package zenodotusexampleofuse;
2
3  import WebCrawlers.Zenodotus;
4  import org.json.simple.JSONArray;
5  import org.json.simple.JSONObject;
6
7  public class CategoriesList {
8
```

```
 9      public static void main(String[] args) {
10          JSONObject relation  = Zenodotus.getRelation("actorstarredinmovie");
11      }
12  }
```

Command-line

Calling *Get Relation* and showing in command-interface

```
1  java −jar zenodotus.jar −gr actorstarredinmovie
```

Calling *Get Relation* and saving results in a file

```
1  java −jar zenodotus.jar −gr actorstarredinmovie −s result.json
```

2.2.3   Get Category Instance

Returns a JSONObject represents an specific instance of an specific category.

Parameter:

- Category Predicate: Is the category name as it's known by NELL.
- Instance Predicate: Is the category instance name as it's known by NELL.

JSON structure

```
root:Object
├─ instance_name:String
├─ link:String
├─ instance_confidence:String
├─ instance_iteration:String
├─ instance_data_learned:String
├─ instance_literal_strings:Array
│   ├─ (0):Object
│   │   ├─ literal_string_value:String
│   │   └─ link:String
│   └─ ...
├─ instance_category:Object
│   ├─ category_name:String
│   ├─ link:String
│   ├─ category_prologue:String
│   ├─ instance_category_cpl:Array
│   │   ├─ (0):String
│   │   └─ ...
│   └─ instance_category_seal:Array
│       ├─ (0):String
│       └─ ...
└─ instance_relations:Array
    ├─ (0):Object
    │   ├─ relation_name:String
    │   └─ link:String
    └─ ...
```

Java API

```java
1  package zenodotusexampleofuse;
```

```java
2
3  import WebCrawlers.Zenodotus;
4  import org.json.simple.JSONArray;
5  import org.json.simple.JSONObject;
6
7  public class CategoriesList {
8
9      public static void main(String[] args) {
10         JSONObject instance = Zenodotus.getCategoryInstance("actor","mel_gibson");
11     }
12 }
```

Command-line

Calling *Get Category Instance* and showing in command-interface

```
1  java -jar zenodotus.jar -gci actor mel_gibson
```

Calling *Get Category Instance* and saving results in a file

```
1  java -jar zenodotus.jar -gci actor mel_gibson -s result.json
```

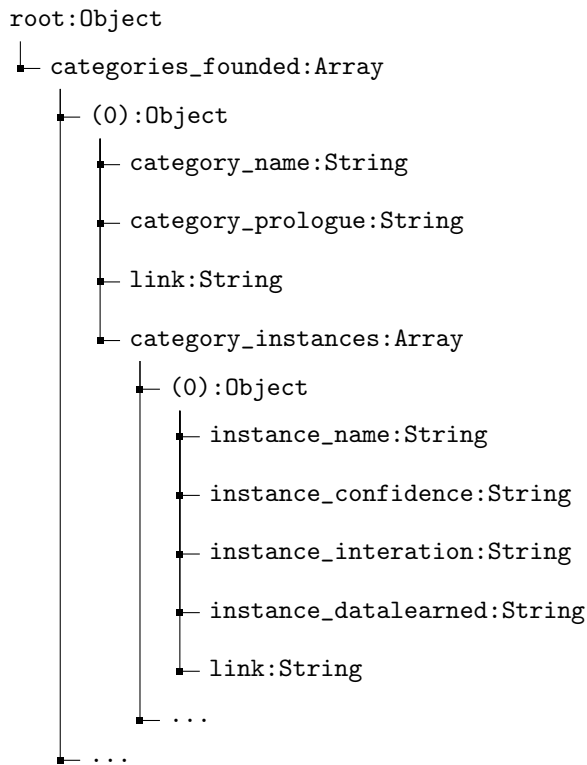## 2.3   Searchers Methods

2.3.1   Search Category

Returns a JSONArray with found categories given a keyword. If keyword match with a known category name, it will return in the first position of list.

Parameter:

- Keyword: The method will return results based on this parameter.

JSON structure

```
root:Object
 └─ categories_founded:Array
     ├─ (0):Object
     │   ├─ category_name:String
     │   ├─ category_prologue:String
     │   ├─ link:String
     │   ├─ category_instances:Array
     │   │   ├─ (0):Object
     │   │   │   ├─ instance_name:String
     │   │   │   ├─ instance_confidence:String
     │   │   │   ├─ instance_interation:String
     │   │   │   ├─ instance_datalearned:String
     │   │   │   └─ link:String
     │   │   └─ ...
     └─ ...
```

Java API

```java
package zenodotusexampleofuse;

import WebCrawlers.Zenodotus;
import org.json.simple.JSONArray;
import org.json.simple.JSONObject;

public class CategoriesList {

    public static void main(String[] args) {
        JSONArray categories = Zenodotus.searchCategory("movie");
    }
}
```

Command-line

Calling *Search Category* and showing in command-interface

```
java -jar zenodotus.jar -sc actor
```

Calling *Search Category* and saving results in a file

```
java -jar zenodotus.jar -sc actor -s result.json
```

2.3.2   Search Relation

Returns a JSONArray with found relations given a keyword. If keyword match with a known relation name, it will return in the first position of list.

Parameter:

- Keyword: The method will return results based on this parameter.

JSON structure

```
root:Object
  └─ relations_founded:Array
       ├─ (0):Object
       │    ├─ relation_name:String
       │    ├─ link:String
       │    ├─ relation_prologue:String
       │    ├─ relation_domain:Object
       │    │    ├─ category_name:String
       │    │    └─ link:String
       │    ├─ relation_range:Object
       │    │    ├─ category_name:String
       │    │    └─ link:String
       │    ├─ metadata:Object
       │    │    └─ extractionPatterns:Array
       │    │         ├─ (0):String
       │    │         └─ ...
       │    └─ relation_instances:Array
       │         ├─ (0):Object
       │         │    ├─ instance_arg1:String
       │         │    ├─ instance_arg2:String
       │         │    ├─ instance_confidence:String
       │         │    ├─ instance_interation:String
       │         │    └─ instance_datalearned:String
       │         └─ ...
       └─ ...
```

Java API

```java
package zenodotusexampleofuse;

import WebCrawlers.Zenodotus;
```

```
4   import org.json.simple.JSONArray;
5   import org.json.simple.JSONObject;
6
7   public class CategoriesList {
8
9       public static void main(String[] args) {
10          JSONArray relations = Zenodotus.searchRelation("movie");
11      }
12  }
```

Command-line

Calling *Search Relation* and showing in command-interface

```
1   java −jar zenodotus.jar −sr movie
```

Calling *Search Relation* and saving results in a file

```
1   java −jar zenodotus.jar −sr movie −s result.json
```

2.3.3   Search Category Instance

Returns a JSONArray with found category instances given a keyword. If keyword match with a known relation name, it will return in the first position of list. This method is overloaded, is possible to search in two ways, with and without the category name.

Parameter:

- Predicate (optional): Is the category name as it's known by NELL.
- Keyword: The method will return results based on this parameter.

JSON structure

```
root:Object
 └ instances_founded:Array
    ├ (0):Object
    │  ├ instance_name:String
    │  ├ link:String
    │  ├ instance_confidence:String
    │  ├ instance_iteration:String
    │  ├ instance_data_learned:String
    │  ├ instance_literal_strings:Array
    │  │  ├ (0):Object
    │  │  │  ├ literal_string_value:String
    │  │  │  ├ link:String
    │  │  ├ ...
    │  ├ instance_category:Object
    │  │  ├ category_name:String
    │  │  ├ link:String
    │  │  ├ category_prologue:String
    │  │  ├ instance_category_cpl:Array
    │  │  │  ├ (0):String
    │  │  │  ├ ...
    │  │  ├ instance_category_seal:Array
    │  │  │  ├ (0):String
    │  │  │  ├ ...
    │  ├ instance_relations:Array
    │  │  ├ (0):Object
    │  │  │  ├ relation_name:String
    │  │  │  ├ link:String
    │  │  ├ ...
    ├ ...
```

15

Java API

```java
package zenodotusexampleofuse;

import WebCrawlers.Zenodotus;
import org.json.simple.JSONArray;
import org.json.simple.JSONObject;

public class CategoriesList {

  public static void main(String[] args) {
    JSONArray instances = Zenodotus.searchCategoryInstance("matrix");

    JSONArray actorInstances = Zenodotus.searchCategoryInstance("actor","al pacino"
    );
  }
}
```

Command-line

Calling *Search Category Instance* without category name and showing in command-interface

```
java -jar zenodotus.jar -sci mel_gibson
```

Calling *Search Category Instance* without category name and saving results in a file

```
java -jar zenodotus.jar -sci mel_gibson -s result.json
```

Calling *Search Category Instance* with category name and showing in command-interface

```
java -jar zenodotus.jar -sci actor mel_gibson
```

Calling *Search Category Instance* with category name and saving results in a file

```
java -jar zenodotus.jar -sci actor mel_gibson -s result.json
```