

Semantic Web Praktikum

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SoSe 2014

GeoLift

Output Layer

RDF/XML

N3

Turtle

Operators

Split

Merge

Filter

Enrichment Modules

Dereferencing

Linking

NLP

Input Layer

RDF/XML

N3

Turtle

- Anreicherung von RDF Datensätzen
- Modularer Aufbau
- Module: $D \rightarrow D$
- Operator: $2^D \rightarrow 2^D$
- Zur Zeit dereferencing, linking und NLP
- <http://github.com/geoknow/geolift>

T1: Anreicherung von RDF Datensätzen

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Turtle

- Erweiterung von GeoLift
1. Anreicherung der Ontologie über DL-Learner
 2. Split und Merge-Operatoren
 3. Spotlight Anbindung

T2: Web-Oberfläche für GeoLift

Output Layer

RDF/XML

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Operators

Split

Merge

Filter

Enrichment Modules

Dereferencing

Linking

NLP

Input Layer

RDF/XML

N3

Turtle

- Zur Zeit
Konsolenaufrufe
- 1. Umsetzung von REST Interfaces
- 2. Erstellung einer Web-Oberfläche (JavaScript/Java)

FOX

- Federated Knowledge Extraction Framework

Home **Demo** Doc

[Go Back](#)

The foundation of the [University of Leipzig](#) in 1409 initiated the city's development into a centre of German law and the publishing industry. The philosopher and mathematician [Gottfried Wilhelm Leibniz](#) was born in [Leipzig](#) in 1646, and attended the university from 1661-1666.

```
[ {
  "@id" : " :t0",
  "http://www.w3.org/2000/10/annotation-ns#body" : [ {
    "@value" : "University of Leipzig"
  } ],
  "http://ns.aksw.org/scms/source" : [ {
    "@id" : "http://ns.aksw.org/scms/tools/fox"
  } ],
  "http://ns.aksw.org/scms/means" : [ {
    "@id" : "http://dbpedia.org/resource/Leipzig_University"
  } ],
  "http://ns.aksw.org/scms/endIndex" : [ {
    "@value" : "43",
    "@type" : "http://www.w3.org/2001/XMLSchema#int"
  } ],
  "http://ns.aksw.org/scms/beginIndex" : [ {
    "@value" : "22",
```

T3: Erweiterung von FOX

Home Demo Doc

Go Back

The foundation of the **University of Leipzig** in 1409 initiated the city's development and mathematician **Gottfried Wilhelm Leibniz** was born in **Leipzig** in 1646, and

```
[ {
  "@id" : "_:t0",
  "http://www.w3.org/2000/10/annotation-ns#body" : [ {
    "@value" : "University of Leipzig"
  } ],
  "http://ns.aksw.org/scms/source" : [ {
    "@id" : "http://ns.aksw.org/scms/tools/fox"
  } ],
  "http://ns.aksw.org/scms/means" : [ {
    "@id" : "http://dbpedia.org/resource/Leipzig_University"
  } ],
  "http://ns.aksw.org/scms/endIndex" : [ {
    "@value" : "43",
    "@type" : "http://www.w3.org/2001/XMLSchema#int"
  } ],
  "http://ns.aksw.org/scms/beginIndex" : [ {
    "@value" : "22",
```

- Einbindung von ClearNLP
- Ausgabe in NIF2.0
- Evaluation der Erweiterung

LIMES



Source:

Endpoint:

Graph:

Var:

Pagesize:

Restriction:

Property:

Target:

Endpoint:

Graph:

Var:

Pagesize:

Restriction:

Property:

Metric:

Output:

Execution:

Acceptance: Threshold: Relation:

Review: Threshold: Relation:

Detected prefixes:

rdf: (-)

rdfs: (-)

owl: (-)

dc-terms: (-)

dbpedia-o: (-)

dbpedia-p: (-)

- Verknüpfung von Ressourcen
- Deklaratives Framework
- Basiert auf Ähnlichkeitsfunktionen
- Quadratisches Problem
- Skalierbarkeit?

T4: Ähnlichkeitsberechnungen



Source:

Endpoint:

Graph:

Var:

Pagesize:

Restriction:

Property:

Target:

Endpoint:

Graph:

Var:

Pagesize:

Restriction:

Property:

Metric:

Output:

Execution:

Acceptance: Threshold: Relation:

Review: Threshold: Relation:

Detected prefixes:

rdf: (-)

rdfs: (-)

owl: (-)

dc-terms: (-)

dbpedia-o: (-)

dbpedia-p: (-)

- Problem
 - Gegeben S, T
 - Finde alle (s,t) mit $\text{sim}(s,t) > x$
- Ziel: Algorithmus für
 - Jaro
 - Jaro-Winkler
 - Smith-Waterman
 - ...

T5: Parallelisierung



Source:

Endpoint:

Graph:

Var:

Pagesize:

Restriction:

Property:

Target:

Endpoint:

Graph:

Var:

Pagesize:

Restriction:

Property:

Metric:

Output:

Execution:

Acceptance: Threshold: Relation:

Review: Threshold: Relation:

Detected prefixes:

rdf: (-)

rdfs: (-)

owl: (-)

dc-terms: (-)

dbpedia-o: (-)

dbpedia-p: (-)

- Problem
 - Gegeben S, T
 - Finde alle (s,t) mit $\text{sim}(s,t) > X$
 - Algorithmus für schnelle Ähnlichkeitsberechnung
- Ziel: Parallelisiere Algorithmus für
 - HR3
 - ORCHID
 - PPJoin+
 - ...

T6: Linked Data Browser

- Automatische Erzeugung natürlicher Sprache
- Beschreibung von RDF Ressourcen

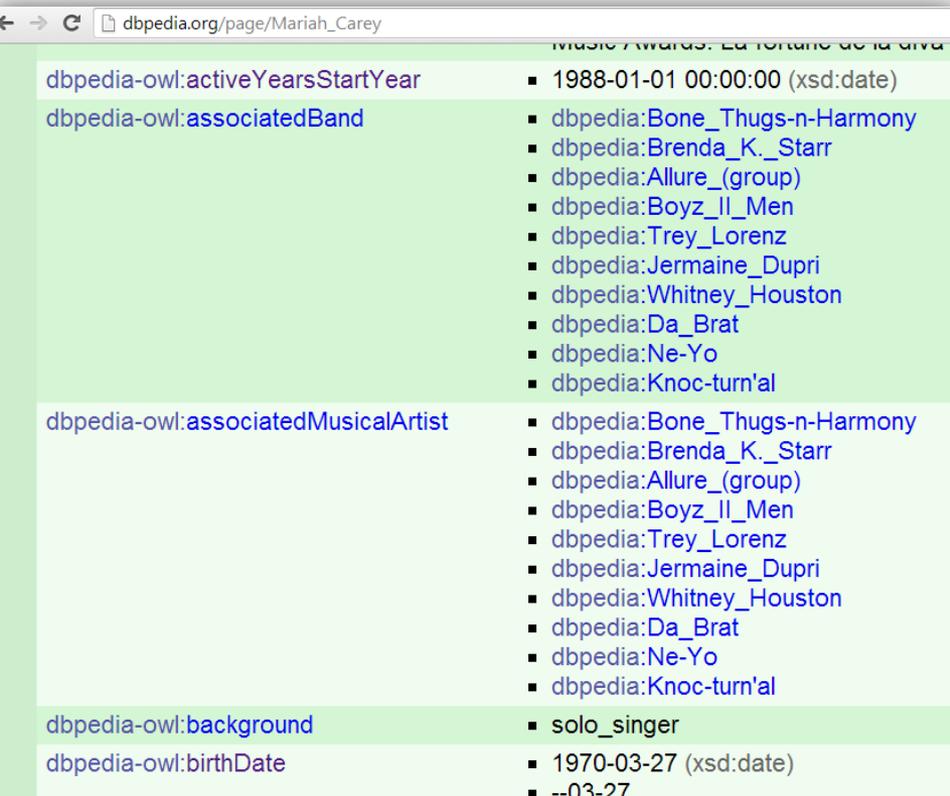


Property	Value
dbpedia-owl:activeYearsStartYear	1988-01-01 00:00:00 (xsd:date)
dbpedia-owl:associatedBand	<ul style="list-style-type: none">dbpedia:Bone_Thugs-n-Harmonydbpedia:Brenda_K._Starrdbpedia:Allure_(group)dbpedia:Boyz_II_Mendbpedia:Trey_Lorenzdbpedia:Jermaine_Dupridbpedia:Whitney_Houstondbpedia:Da_Bratdbpedia:Ne-Yodbpedia:Knoc-turn'al
dbpedia-owl:associatedMusicalArtist	<ul style="list-style-type: none">dbpedia:Bone_Thugs-n-Harmonydbpedia:Brenda_K._Starrdbpedia:Allure_(group)dbpedia:Boyz_II_Mendbpedia:Trey_Lorenzdbpedia:Jermaine_Dupridbpedia:Whitney_Houstondbpedia:Da_Bratdbpedia:Ne-Yodbpedia:Knoc-turn'al
dbpedia-owl:background	<ul style="list-style-type: none">solo_singer
dbpedia-owl:birthDate	<ul style="list-style-type: none">1970-03-27 (xsd:date)--03-27

Mariah Carey is a musical artist. Mariah Carey's genres are, among others, Soul music, Pop music and Hip hop music. Her birth places are New York and Huntington, New York, her birth dates are März 27 and 27. März 1970 and her background is solo singer. Mariah Carey's active years start year is 31. Dezember 1987. Mariah Carey's occupations are, among others, Philanthropy, Record producer and Actor. Mariah Carey's instruments are Singing and Piano.

T6: Linked Data Browser

- Automatische Erzeugung natürlicher Sprache
- Beschreibung von RDF Ressourcen



The screenshot shows a web browser window with the URL `dbpedia.org/page/Mariah_Carey`. The page content is a list of RDF properties and their values for Mariah Carey. The properties are listed on the left, and their values are listed on the right. The values are represented as URIs.

<code>dbpedia-owl:activeYearsStartYear</code>	▪ 1988-01-01 00:00:00 (xsd:date)
<code>dbpedia-owl:associatedBand</code>	▪ <code>dbpedia:Bone_Thugs-n-Harmony</code> ▪ <code>dbpedia:Brenda_K._Starr</code> ▪ <code>dbpedia:Allure_(group)</code> ▪ <code>dbpedia:Boyz_II_Men</code> ▪ <code>dbpedia:Trey_Lorenz</code> ▪ <code>dbpedia:Jermaine_Dupri</code> ▪ <code>dbpedia:Whitney_Houston</code> ▪ <code>dbpedia:Da_Brat</code> ▪ <code>dbpedia:Ne-Yo</code> ▪ <code>dbpedia:Knoc-turn'al</code>
<code>dbpedia-owl:associatedMusicalArtist</code>	▪ <code>dbpedia:Bone_Thugs-n-Harmony</code> ▪ <code>dbpedia:Brenda_K._Starr</code> ▪ <code>dbpedia:Allure_(group)</code> ▪ <code>dbpedia:Boyz_II_Men</code> ▪ <code>dbpedia:Trey_Lorenz</code> ▪ <code>dbpedia:Jermaine_Dupri</code> ▪ <code>dbpedia:Whitney_Houston</code> ▪ <code>dbpedia:Da_Brat</code> ▪ <code>dbpedia:Ne-Yo</code> ▪ <code>dbpedia:Knoc-turn'al</code>
<code>dbpedia-owl:background</code>	▪ <code>solo_singer</code>
<code>dbpedia-owl:birthDate</code>	▪ 1970-03-27 (xsd:date) ▪ --03-27

- Problem: Gegeben Ressource R
- Ziel: Generiere HTML Beschreibung von Ressource mit
 - Abstract (aus RDF)
 - Propertyliste
 - Values