Implementing a Text Mining Service Offer on the Migale Bioinformatics Platform

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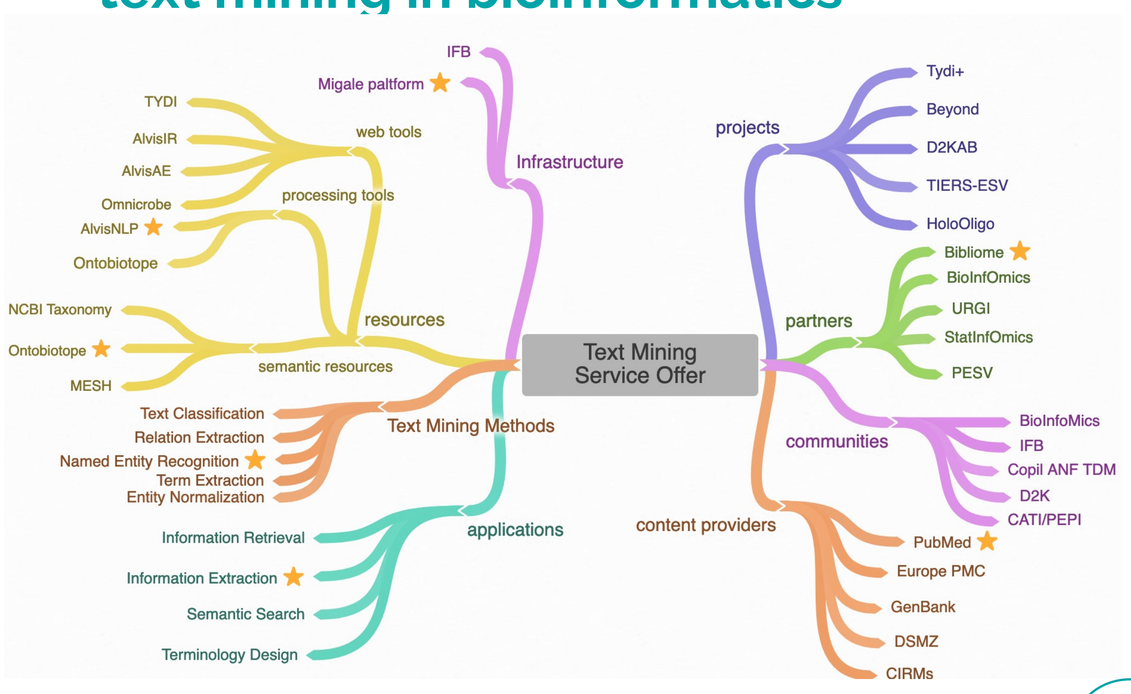
Migale, as a collective scientific infrastructure of INRAE, is building a text mining service offer to enable the bioinformatics community to more easily exploit and extract the information contained in the scientific literature.

As part of the platform missions

- **Provision** on the platform of **data** and **software** for text mining
- Textual data **analysis** (text mining)
- Design and **developement** of **applications**
- **Training** of users in text mining **methods** and **tools**

➔ https://migale.inrae.fr/

Reinforce the integration and use of text mining in bioinformatics



Data Analysis

Expertise Area:
- Text and data mining

Applications:
- Creation of thematic corpora
- Extraction of named entities
- Classification of texts

Application Domain:
- Microbiologie

Example of projet « TDM4AnimalPhysiology »
- Extraction of genes, pesticides, polyphenols using thematic corpora collected from PubMed
- Study of male and female fertility and energy metabolism of different organisms (mammals, fish, c elegans, drosophila, plants, etc.)

Design and Development

- **Text Mining APIs**: development of APIs wrapping text mining processes based on specialized uses
- **Tydi+**: deployment and management of instances of a new application for terminology edition
- **Omnicrobe**: management and evolution of the information extraction workflow that implements the text mining process of the Omnicrobe Information System

Data and Tools

- **Provision** of ~ 15 instances of text mining tools developed by partners
  - AlvisIR: generic semantic search engine
  - Tydi: terminology editor
  - AlvisAE: text annotation editor
- **Regular updating of PubMed local databank**
- **Packaging**, **deployment** and **management** of text mining **tools**

Trainings

- **A text mining module** in the « Bioinformatics by practicing » cycle of Migale
- Entitled: « **Introduction au text mining avec AlvisNLP** »
- Target audiance: (Bio-)informaticians
- Contents:
  - Techniques for Named **Entity Recognition** (NER)
  - Use cases in biology (recognition of genes, proteins, habitats of bacteria, etc.)
  - Practice with **AlvisNLP**, a corpus processing engine developed by the Bibliome team at INRAE

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