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Mouhamadou Ba, Véronique Martin, Olivier Rué, Sophie Schbath, Valérie Vidal, Valentin Loux

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Implementing a Text Mining Service Offer on the Migale Bioinformatics Platform

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.

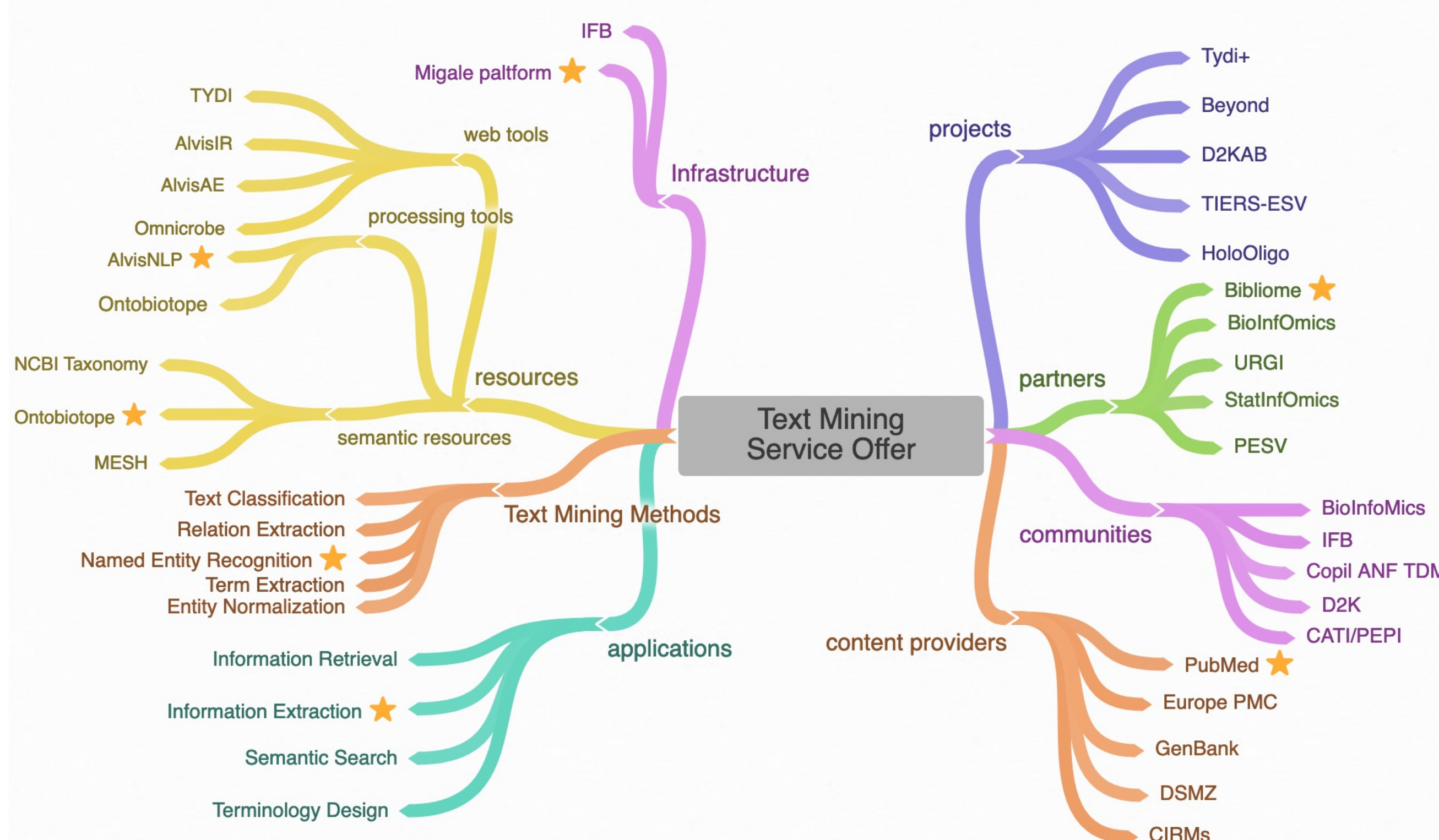


As part of the platform missions

- Provision** on the platform of **data** and **software** for text mining
- Textual data **analysis** (text mining)
- Design and **development** 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 audience: (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

Centre
Île-de-France – Jouy-en-Josas-Antony

➔ Université Paris-Saclay, INRAE, MaIAGE, 78350, Jouy-en-Josas, France
Université Paris-Saclay, INRAE, Bioinformatics, Migale, 78350, Jouy-en-Josas, France