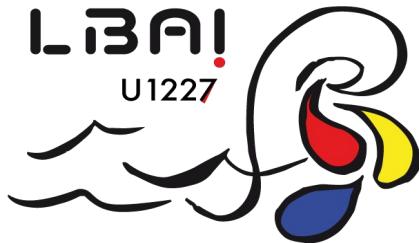




L'innovation autour de la donnée  
&  
Le traitement du langage naturel dans le domaine  
biomédical



# Le traitement du langage naturel (NLP)

- Beaucoup de données disponibles

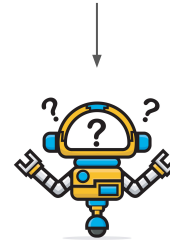
- Données non structurées

Patient	âge
N1	19
N2	57

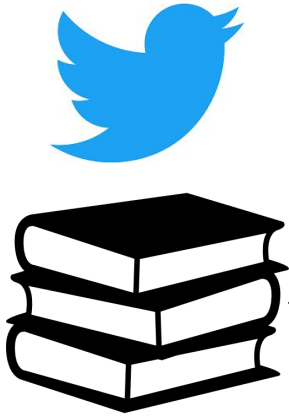
“Le patient N1 est âgé de 19 ans,  
le patient N2 en a 57.”



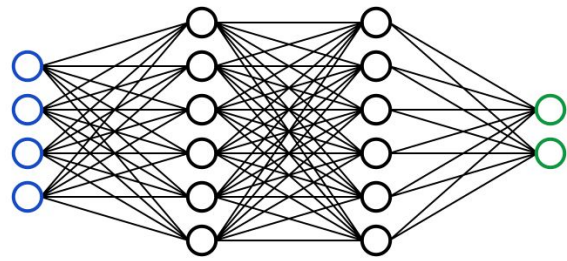
$\left( \begin{array}{cc} N1 & 19 \\ N2 & 57 \end{array} \right)$



# l'Approche "Big Data"

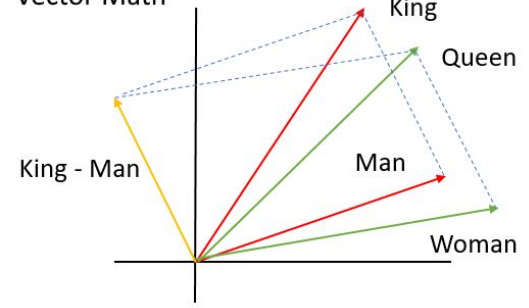


Word -> Vecteur



King -> [2,3]

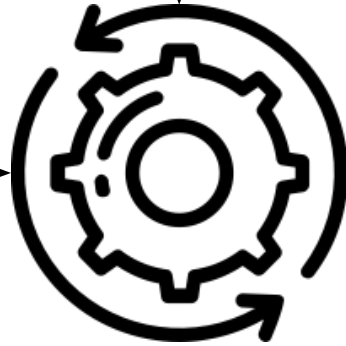
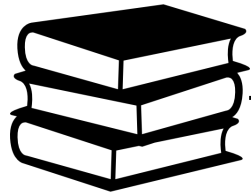
Vector Math



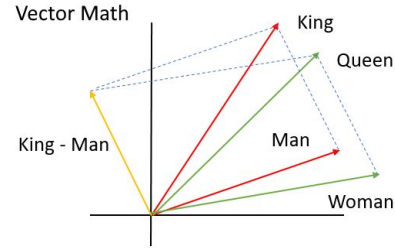
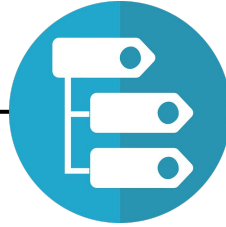
Performances du modèle dépendantes des données disponibles

Injection d'une ontologie

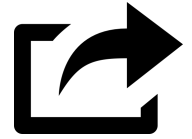
Ontologie



Vectorisation



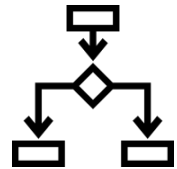
Vecteurs



Extraction de concepts



Calcul de distances



Classification

# Automatiser la SLR

Revue systématique de la littérature

- Répétitif
- Chronophage

PubMed

requête



BIBOT



Evaluation d'articles



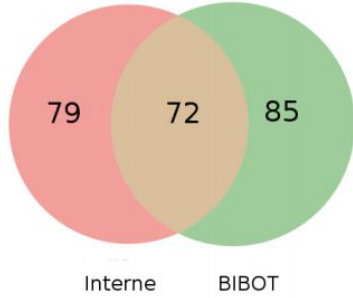
Extraction d'informations



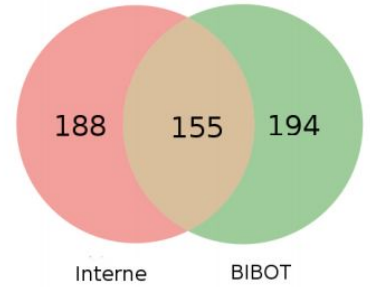
Représentation des résultats

Est ce que ça marche ?

### Lupus Erythematosus



### Sjogren's syndrome

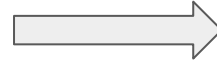
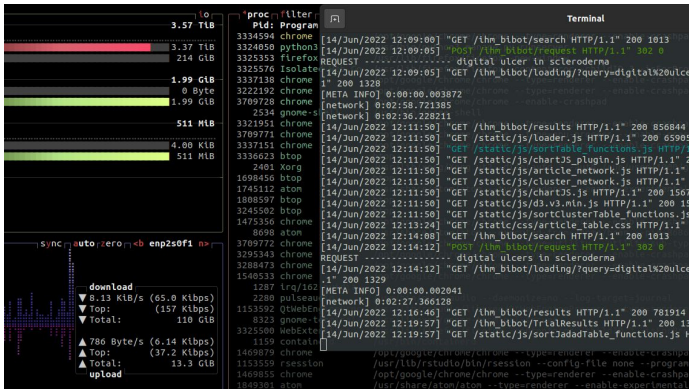


### Sjogren's syndrome Pathogenesis



→13 articles

# Comment ça marche ?



Développement IHM



**B I B O T**



digital ulcer in scleroderma  Search

## List of Articles

PMID	Title	Journal	Date of Publication	Type	Rank	More information	Remove
31673412	Association of antiphospholipid antibodies with active digital ulceration in systemic sclerosis.	RMD open	2019	Journal Article	NA	<a href="#">More</a>	<a href="#">Remove</a>
31227488	Predictors of disease worsening defined by progression of organ damage in diffuse systemic sclerosis: a European Scleroderma Trials and Research (EUSTAR) analysis.	Annals of the rheumatic diseases	2019	Journal Article	NA	<a href="#">More</a>	<a href="#">Remove</a>
30938067	Vitamin D serum levels and the risk of digital ulcers in systemic sclerosis: A longitudinal study.	International journal of rheumatic diseases	2019	Journal Article	NA	<a href="#">More</a>	<a href="#">Remove</a>
30922404	Risk of digital ulcers occurrence in systemic sclerosis: a cross-sectional study.	Advances in rheumatology (London, England)	2019	Journal Article	NA	<a href="#">More</a>	<a href="#">Remove</a>
30359309	Prospective evaluation of the capillaroscopic skin ulcer risk index in systemic sclerosis patients in clinical practice: a longitudinal, multicentre study.	Arthritis research & therapy	2018	Journal Article	NA	<a href="#">More</a>	<a href="#">Remove</a>
30277865	The association of sociodemographic and disease variables with hand function: a Scleroderma Patient-centered Intervention Network cohort study.	Clinical and experimental rheumatology	2018	Journal Article	NA	<a href="#">More</a>	<a href="#">Remove</a>

# Structuration des applications

8 articles publiés

2 méta-analyses



**PUBPEER**  
The online journal club

**Jadad Estimation**

PMID	Title	Randomisation	Double Blind	Withdrawal Description	Randomisation Description	Masking Description
30359309	Prospective evaluation of the capillaroscopic skin ulcer risk index in systemic sclerosis patients in clinical practice: a longitudinal, multicentre study.	false	false	false	false	false
31858338	Vascular biomarkers and digital ulcerations in systemic sclerosis: results from a randomized controlled trial of oral treprostinil (DISTOL-1).	true	false	false	false	true
31841265	Multicenter Qualitative Study Exploring the Patient Experience of Digital Ulcers in Systemic Sclerosis.	false	false	false	false	false
30616671	Regional grafting of autologous adipose tissue is effective in inducing prompt healing of indolent digital ulcers in patients with systemic sclerosis: results of a monocentric randomized controlled study.	true	false	false	false	true
30205981	Exploring the patient experience of digital ulcers in systemic sclerosis.	false	false	false	false	false



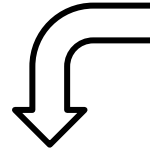


## Perspectives

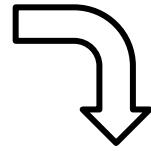
Articles  
scientifiques



Aide à la  
génération de  
SLR



Courriers  
Médicaux



Aide au codage  
d'actes  
médicaux

Aide au  
diagnostic ?

**Merci de Votre Attention**



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bluemongoose.contact@gmail.com