



Introduction

Abstract

The use of natural language processing to find clinical terms on social networks and the subsequent mapping of these terms to SNOMED CT, establishes a new paradigm in the treatment of the information that circulates on the Internet.

This work shows how through the use of ontologies (SNOMED CT) and natural language processing, can influence the treatment of information circulating on the Internet. From the epidemiological aspects, control of false news, as well as educational aspects, both for patients and for health professionals.

Methods

Results

Discussion

Background

Take advantage of the power of expression of the concepts that make up SNOMED CT to link them with the terms expressed on social networks to then classify the type of information and its purpose, educational, false news, epidemic risk.

Topic

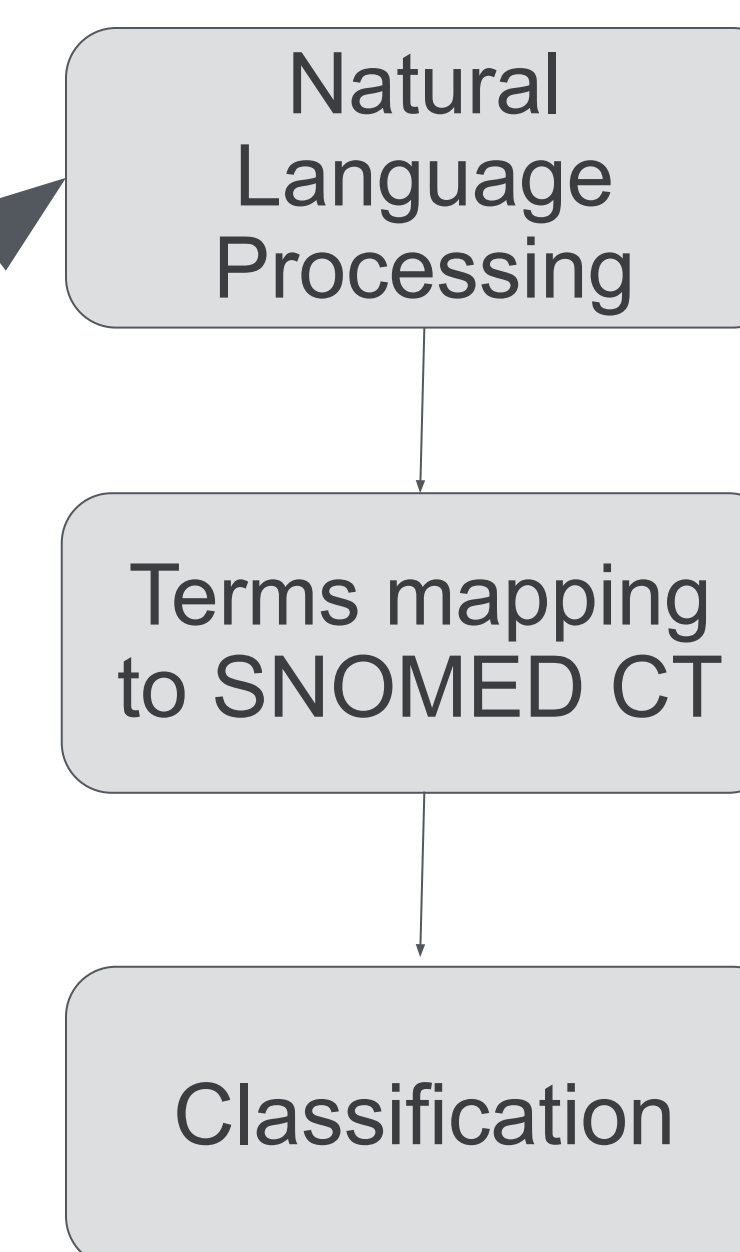
- classification of health information disclosed on social networks.
- Natural Language Processing.
- Terms mapping to SNOMED CT.
- Epidemiological control.
- Search for fake news about health issues
- Search for educational material



Fake news

Epidemiology

Education





Introduction

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Content

- CLASIFICADOR DE INFORMACIÓN EN SALUD DE YOUTUBE, Belenguer-Querol, Laura, Trabajo Fin Master Universitat Oberta Catalunya

https://youtu.be/XZK5TgUv7_8

Content

Define

- Immensity of information on health aspects that cannot be classified because it is unstructured.

Measure

- More than 40% of consumers say that the information found through social media affects the way they take care of their health.
- 31% of health professionals use social media to create professional networks.
- 31% of health organizations in the US have guides with guidelines for using social media.

Analyze

- Analysis of social networks
- The search is focused on finding terms that refer to aspects of health.
- This analysis is done using the APIs provided by the different social networks.

Improve

- Classification of the information found on the Internet, referring to health.



Define

Define the problem.



Measure

Quantify the problem.



Analyze

Identify the cause of the problem.



Improve

Implement and verify the solution.



Control

Maintain the solution.



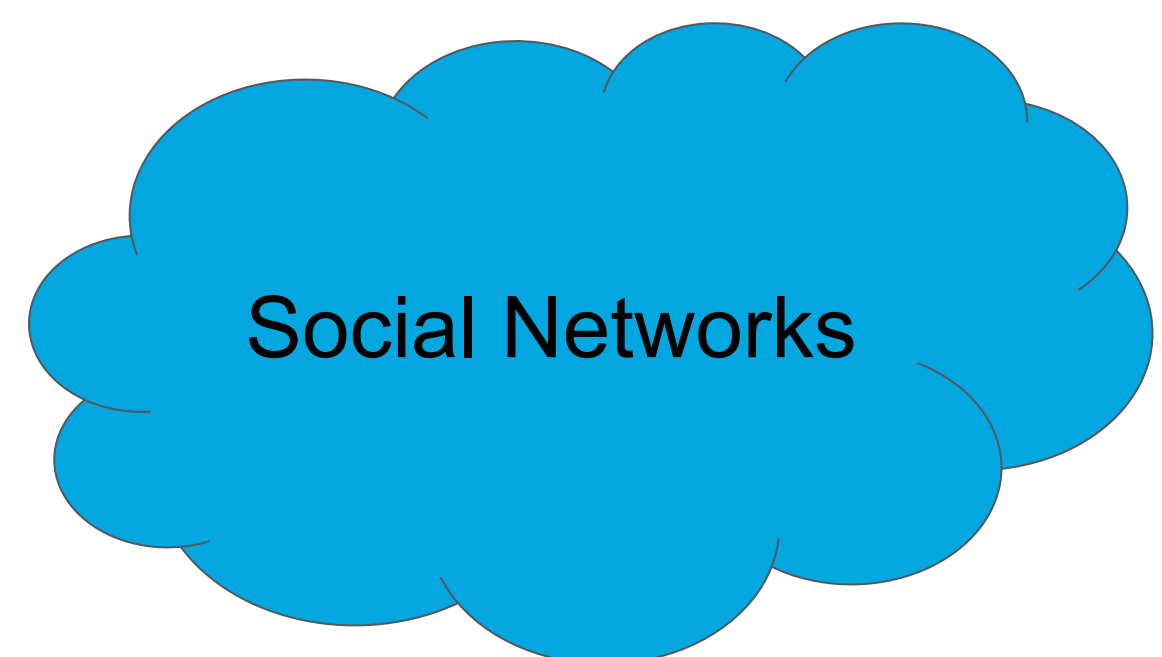
Introduction

Methods

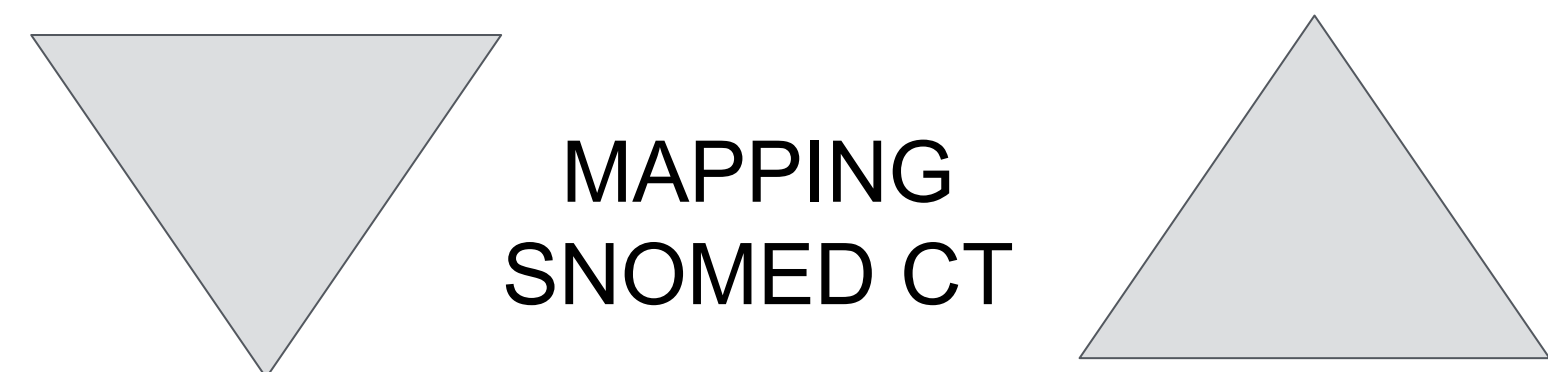
Results

Discussion

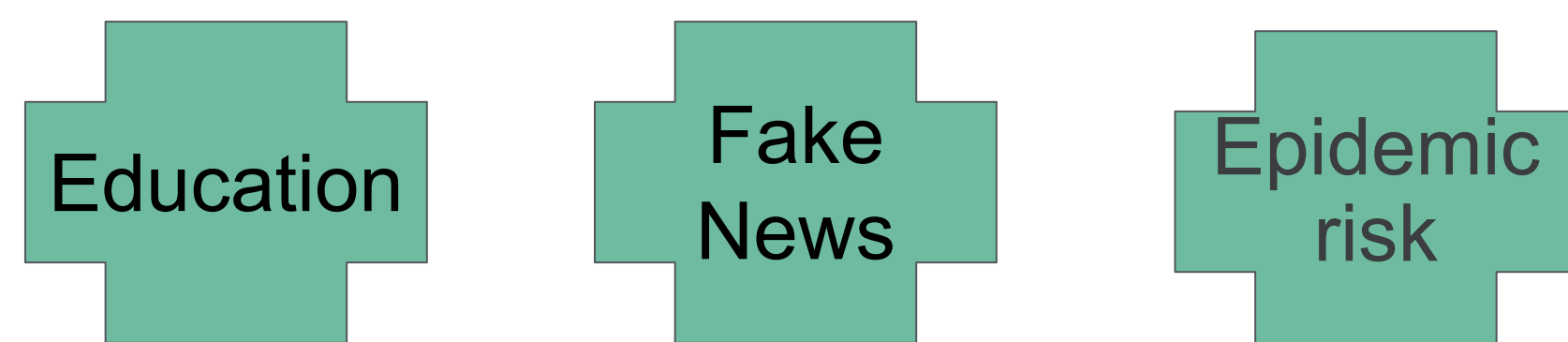
Topic



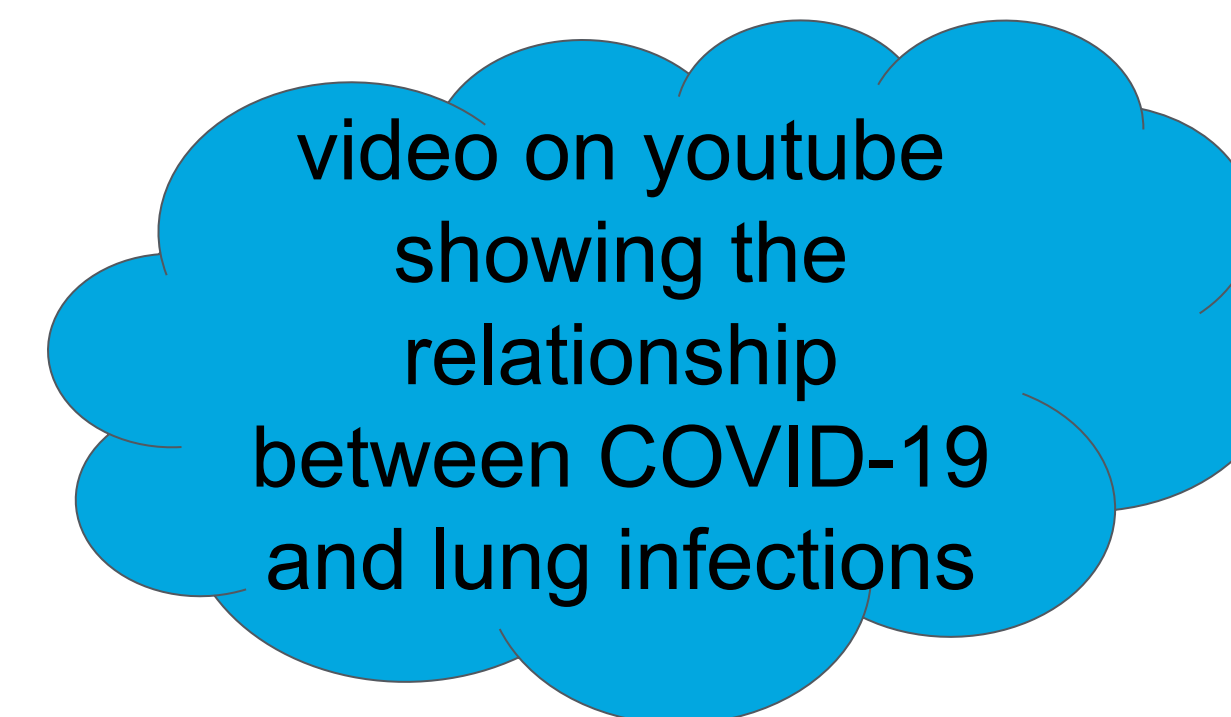
Natural Language Processing



Information classification



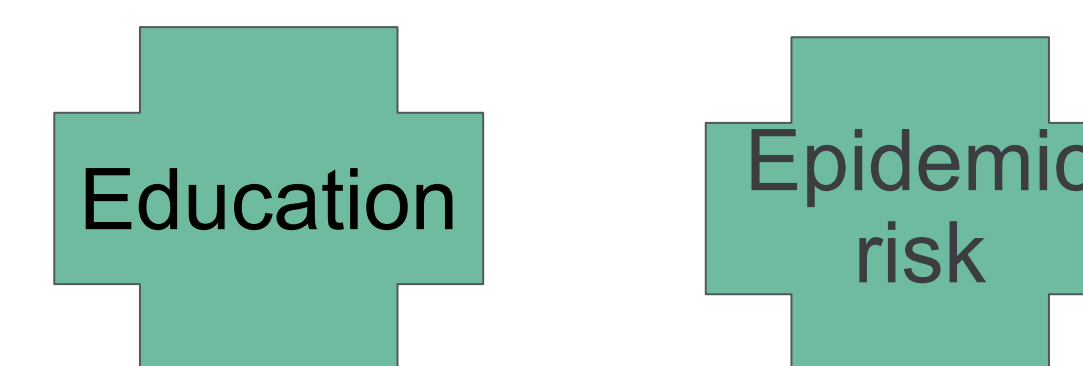
Topic



Natural Language Processing

- 840539006 | Disease caused by severe acute respiratory syndrome coronavirus 2 (disorder) |
- 233604007 | neumonía (trastorno) |
- 128601007 | neumopatía infecciosa (trastorno) |

Information classification





Topic

The results show:

- Extensive detection of clinical terms with their corresponding mapping to SNOMED CT.
- Large amount of missing and unstructured relevant health information.
- Large percentage of terms found with their corresponding mapping to SNOMED CT.

Successful Practices

- Natural Language Processing.
- Greater mapping of terms to Snomed CT.
- Successful classification of the information found in social networks.

Conclusions

- It is possible to use the APIs of social networks, to obtain information that can then be processed by different algorithms.
- Natural language processing allows not to lose relevant information and its structuring.
- SNOMED CT is a perfect ally to give meaning to the terms obtained from natural language processing.
- The information obtained and mapped to SNOMED CT, allows the subsequent classification of content in social networks, although there should be more research on how to classify content.

Future Directions

- The main future work of this project is to use artificial intelligence for information classification, using methodologies that allow autonomous learning of classification algorithms.

1. References

1. 12 estadísticas sobre redes sociales en salud [Internet]. [cited 2022 Sep 4]. Available from: <https://clinic-cloud.com/blog/redes-sociales-en-salud-estadisticas/>
2. Fish B, Bashardoust A, boyd danah, Friedler SA, Scheidegger C, Venkatasubramanian S. Gaps in Information Access in Social Networks. Web Conf 2019 - Proc World Wide Web Conf WWW 2019 [Internet]. 2019 Mar 5 [cited 2022 Sep 4];480–90. Available from: <http://arxiv.org/abs/1903.02047>

