

# **Scientific Research Visualization: A Case Study on Covid-19 Literature**

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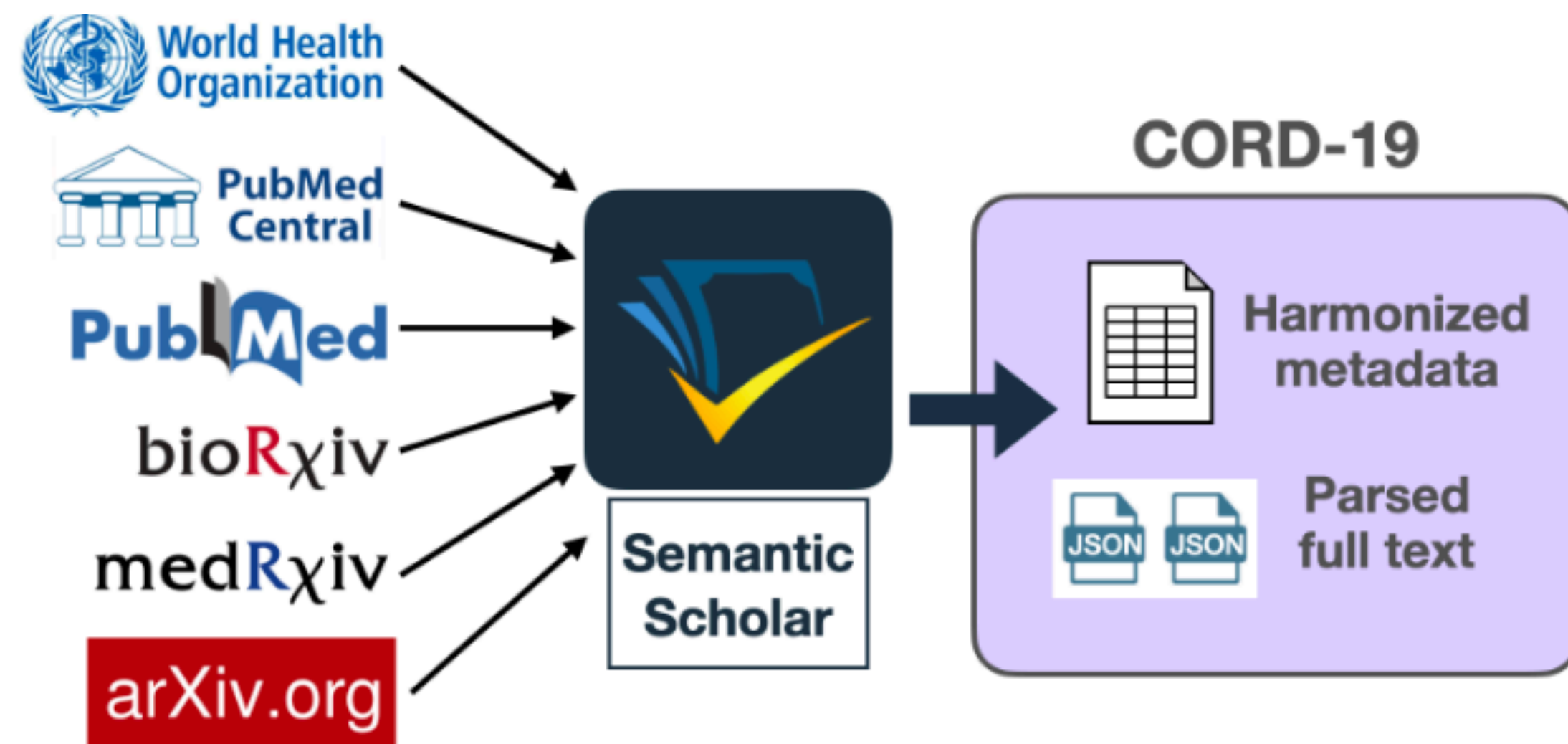
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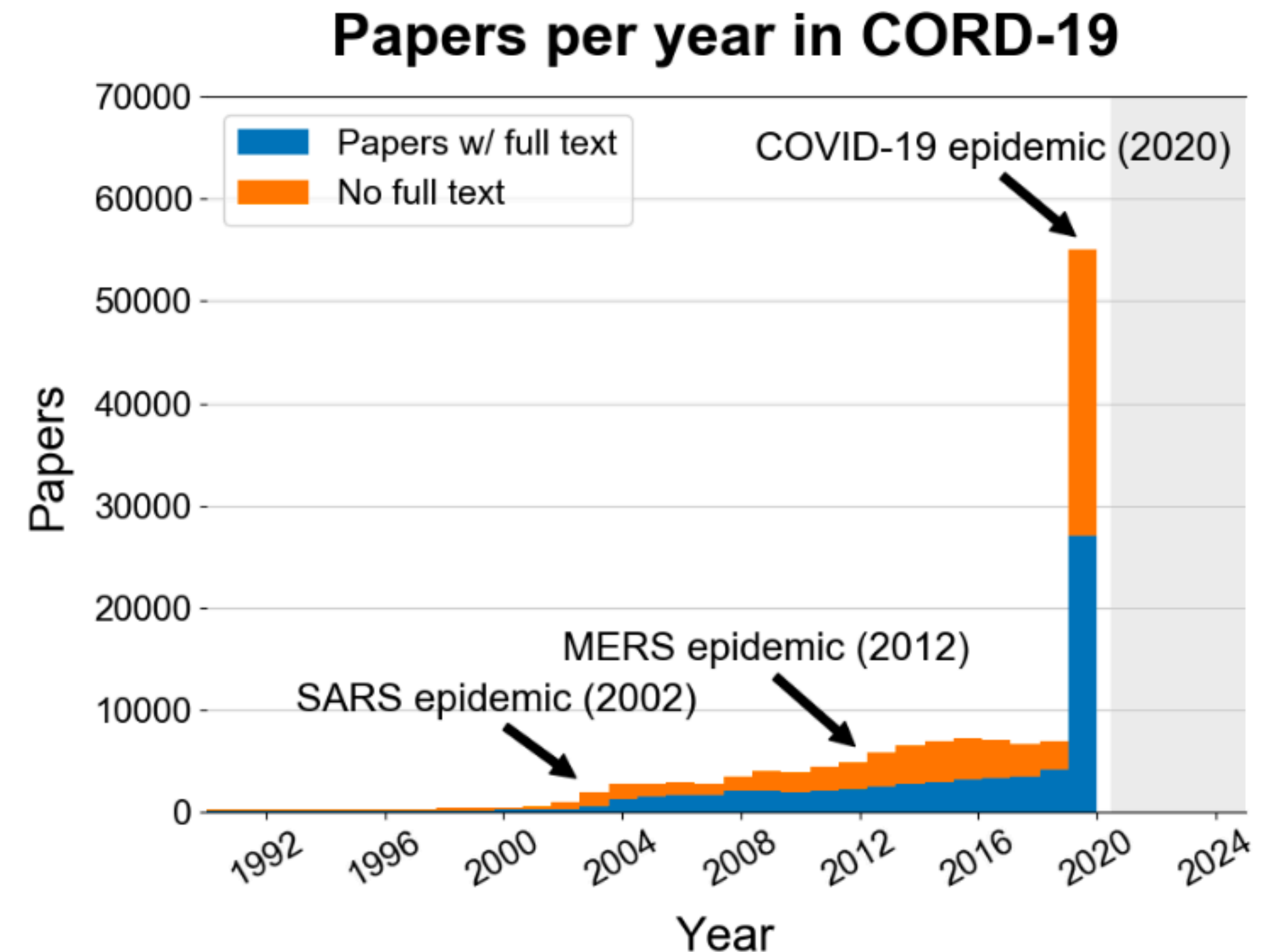
## **Mission**

**Tracking the evolution of the scientific research  
along the time using a visualization platform**

# 1. Introduction



Papers and preprints are collected from different sources through Semantic Scholar. Released as part of CORD-19 are the harmonized and deduplicated metadata and full text JSON. [1]



The distribution of papers per year in CORD-19. A spike in publications occurs in 2020 in response to COVID-19. [1]

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## 2. Dataset

### CORD-19: COVID-19 Open Research Dataset [2]

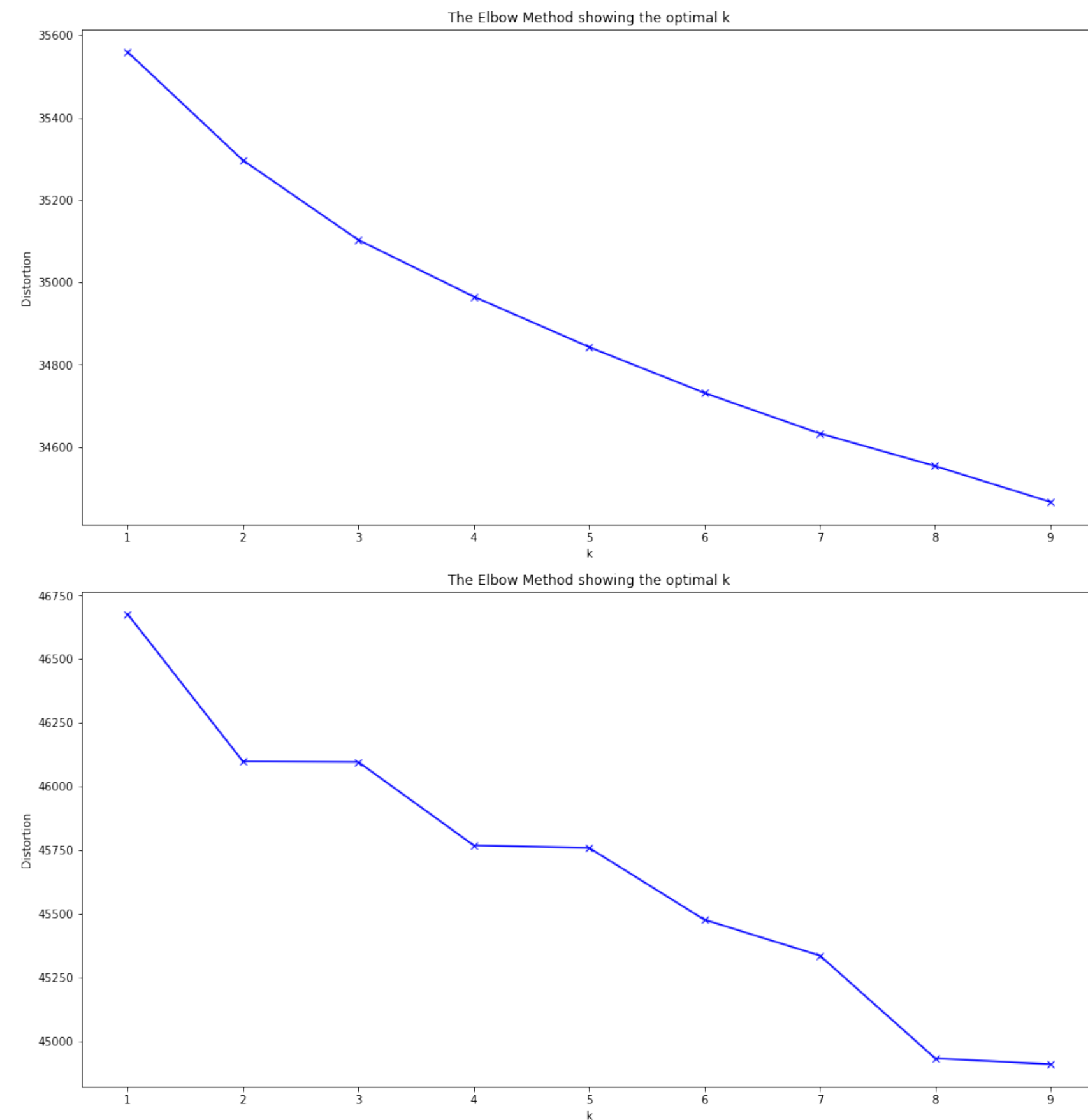
- Preprocessing
  - Tokenizing abstracts
  - Customized stop words
  - Lemmatization
  - TF-IDF

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# 3. Clustering - Original

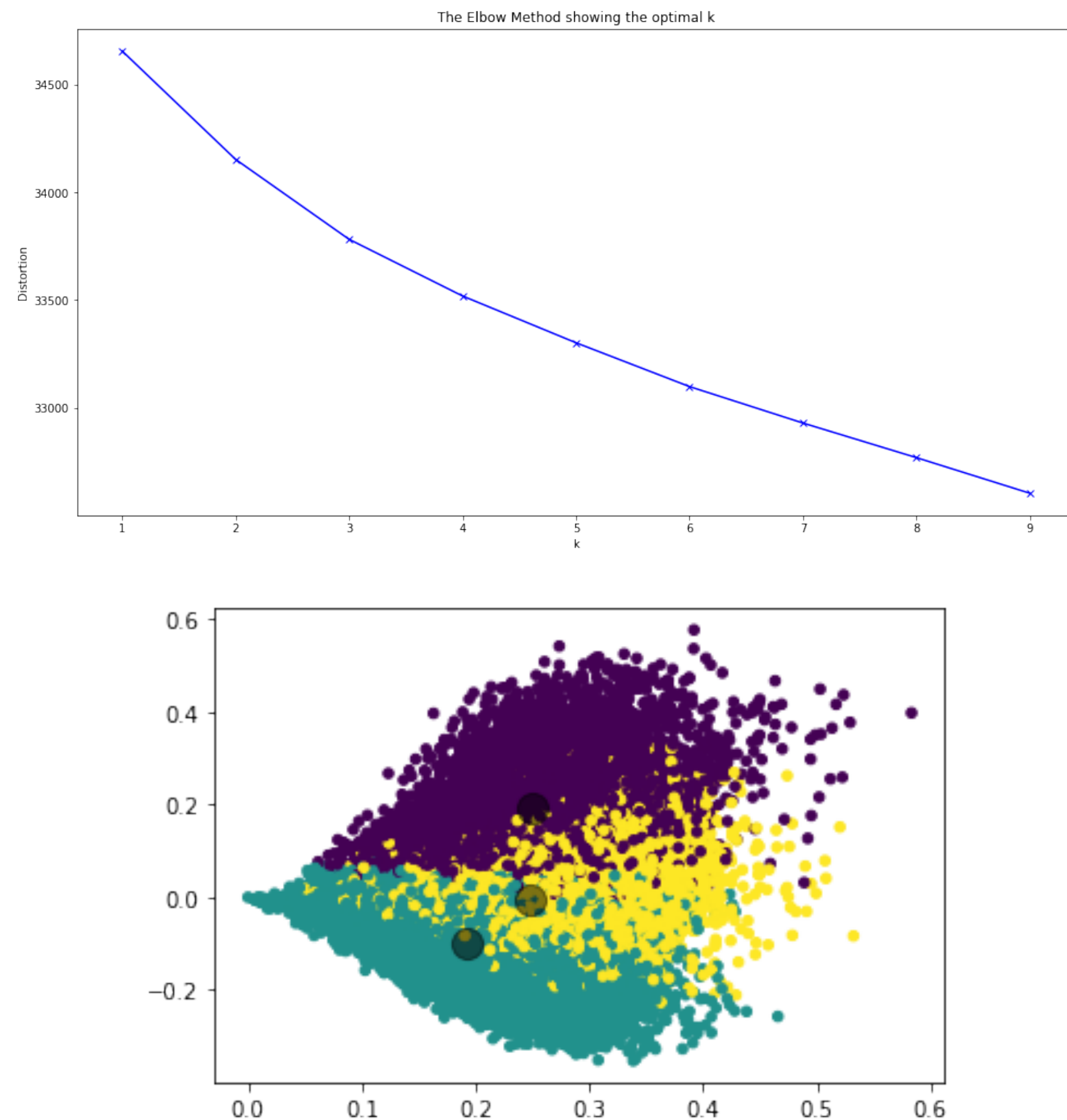
## CORD-19: COVID-19 Open Research Dataset



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# 3. Clustering - SVD

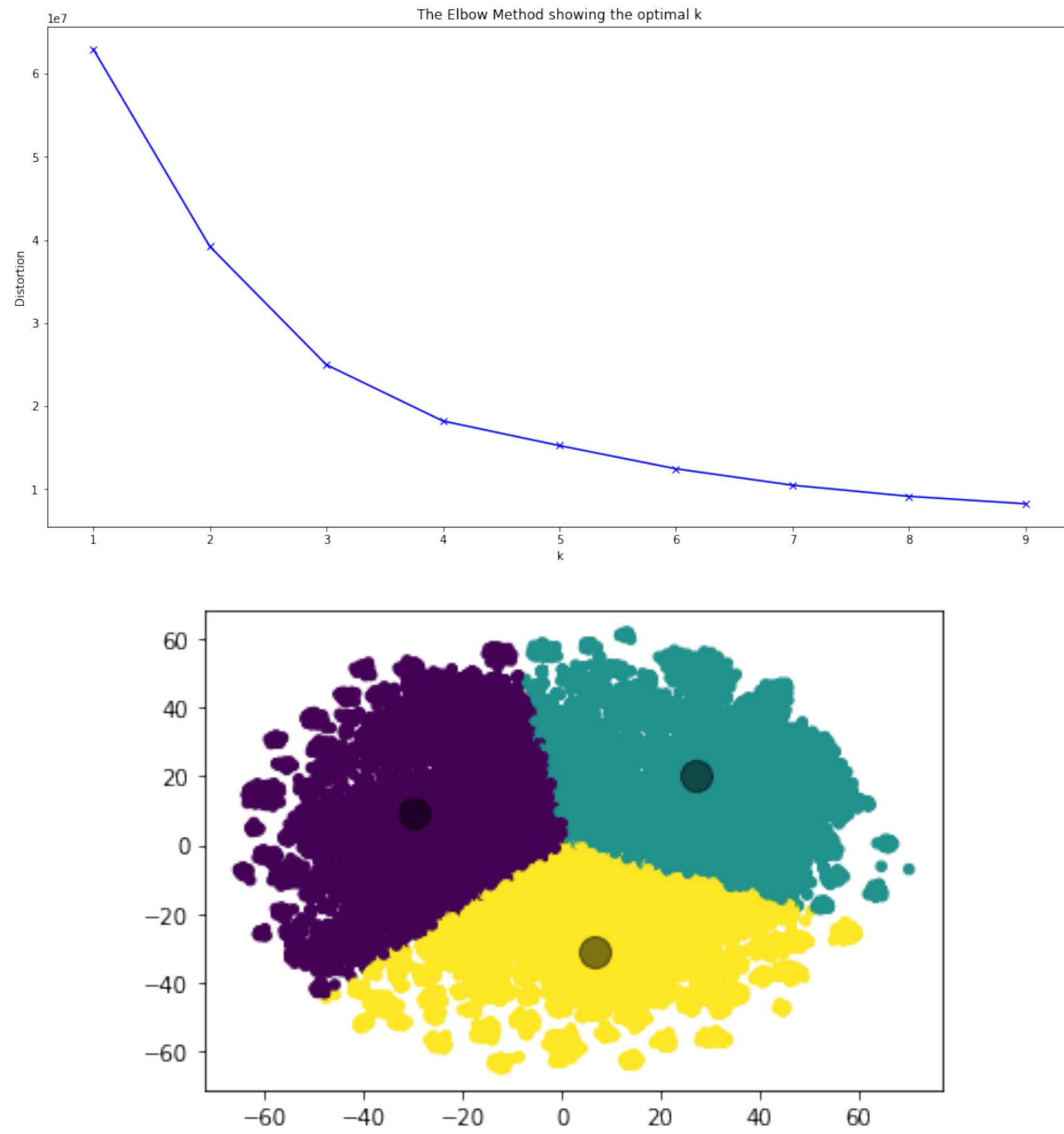
## CORD-19: COVID-19 Open Research Dataset



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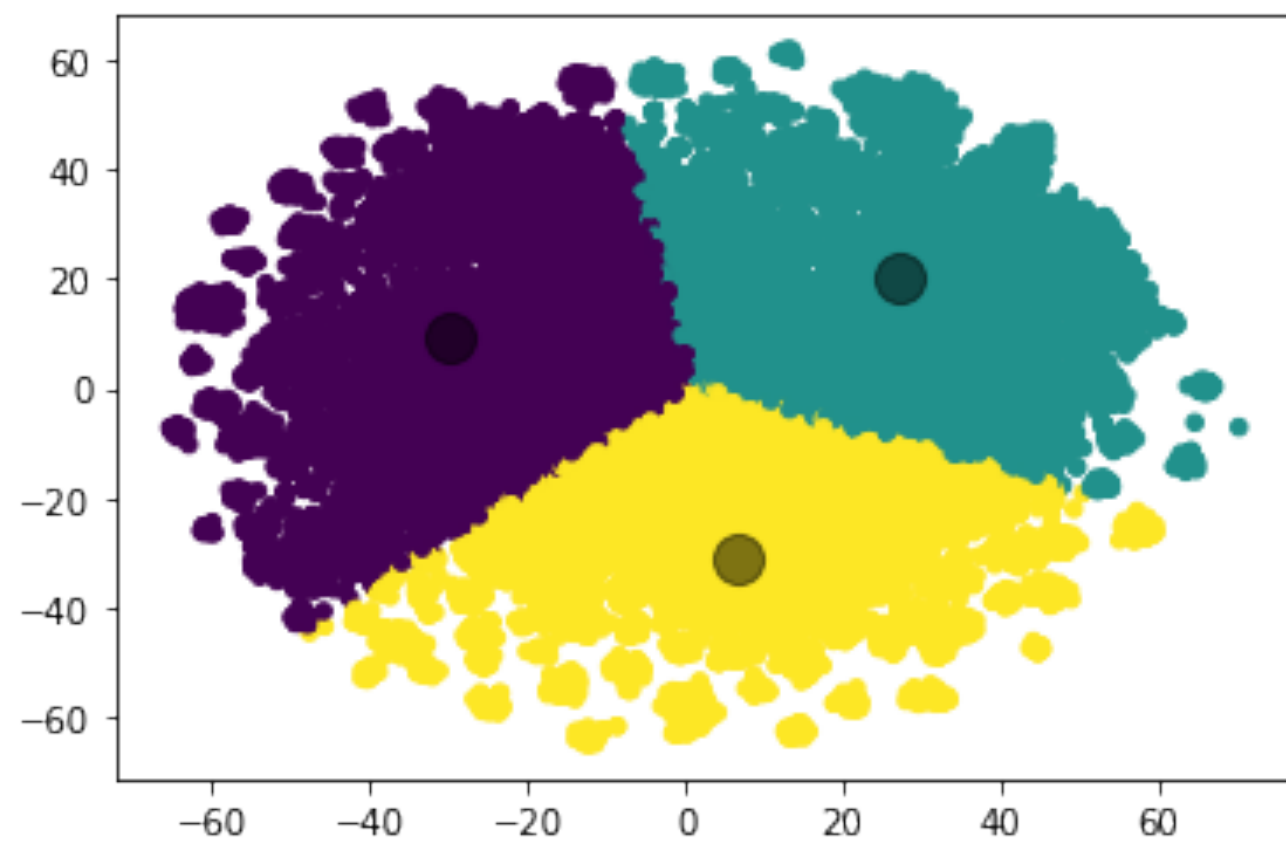
# CORD-19: COVID-19 Open Research Dataset



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# CORD-19: COVID-19 Open Research Dataset



→ Societal response  
to the pandemic

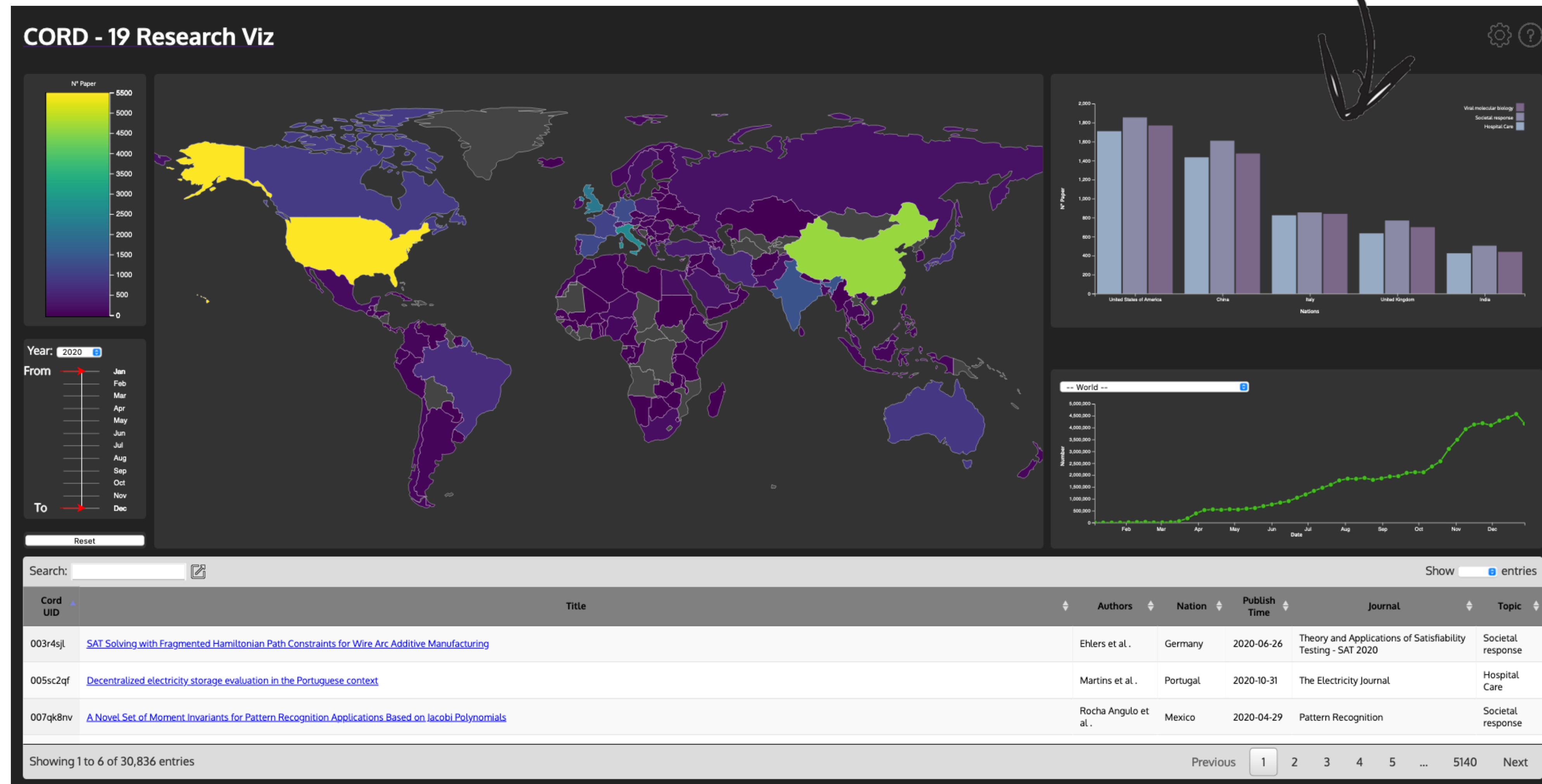
→ Viral molecular biology

→ Hospital care

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# 4. Visualization platform

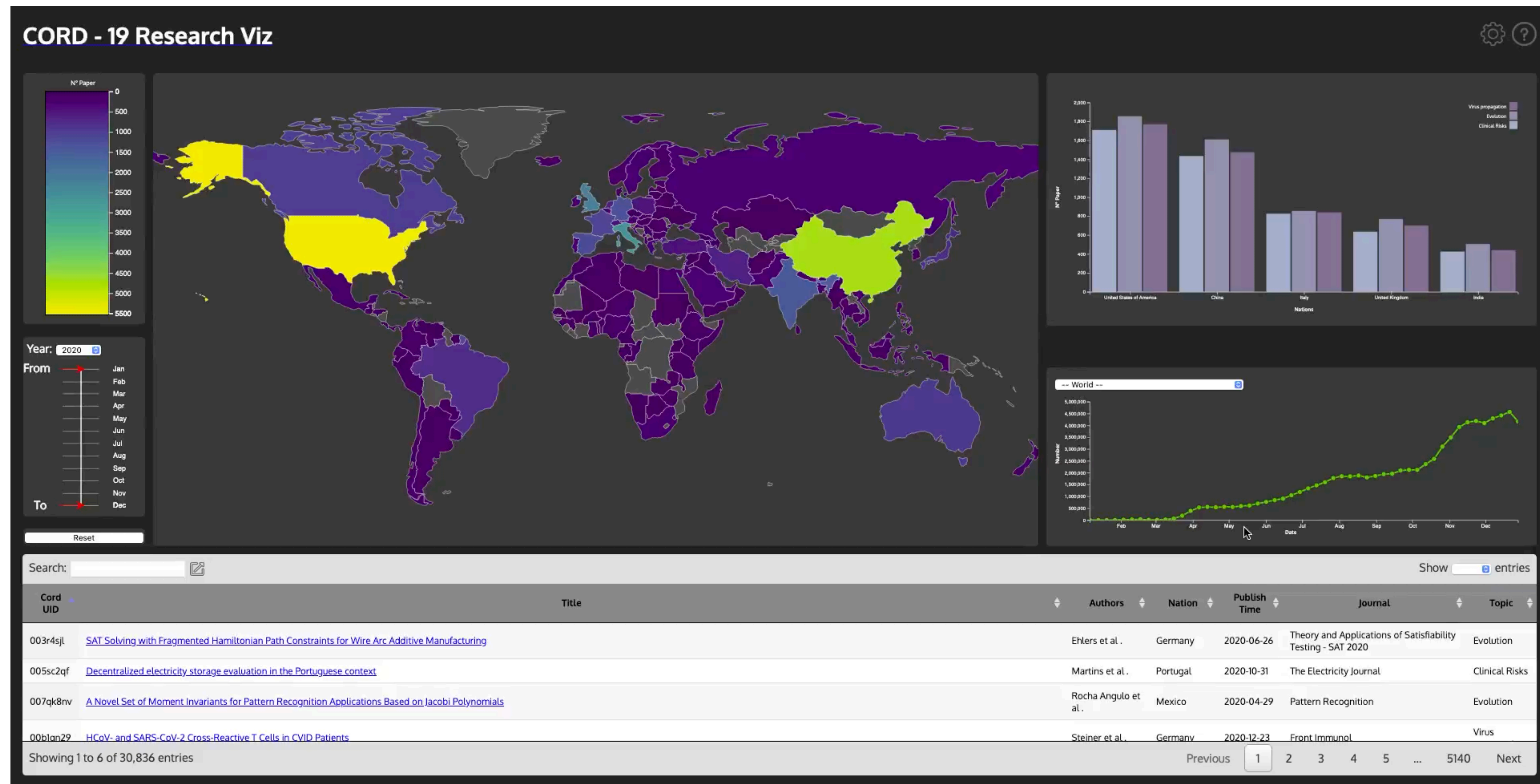
CLICK ME



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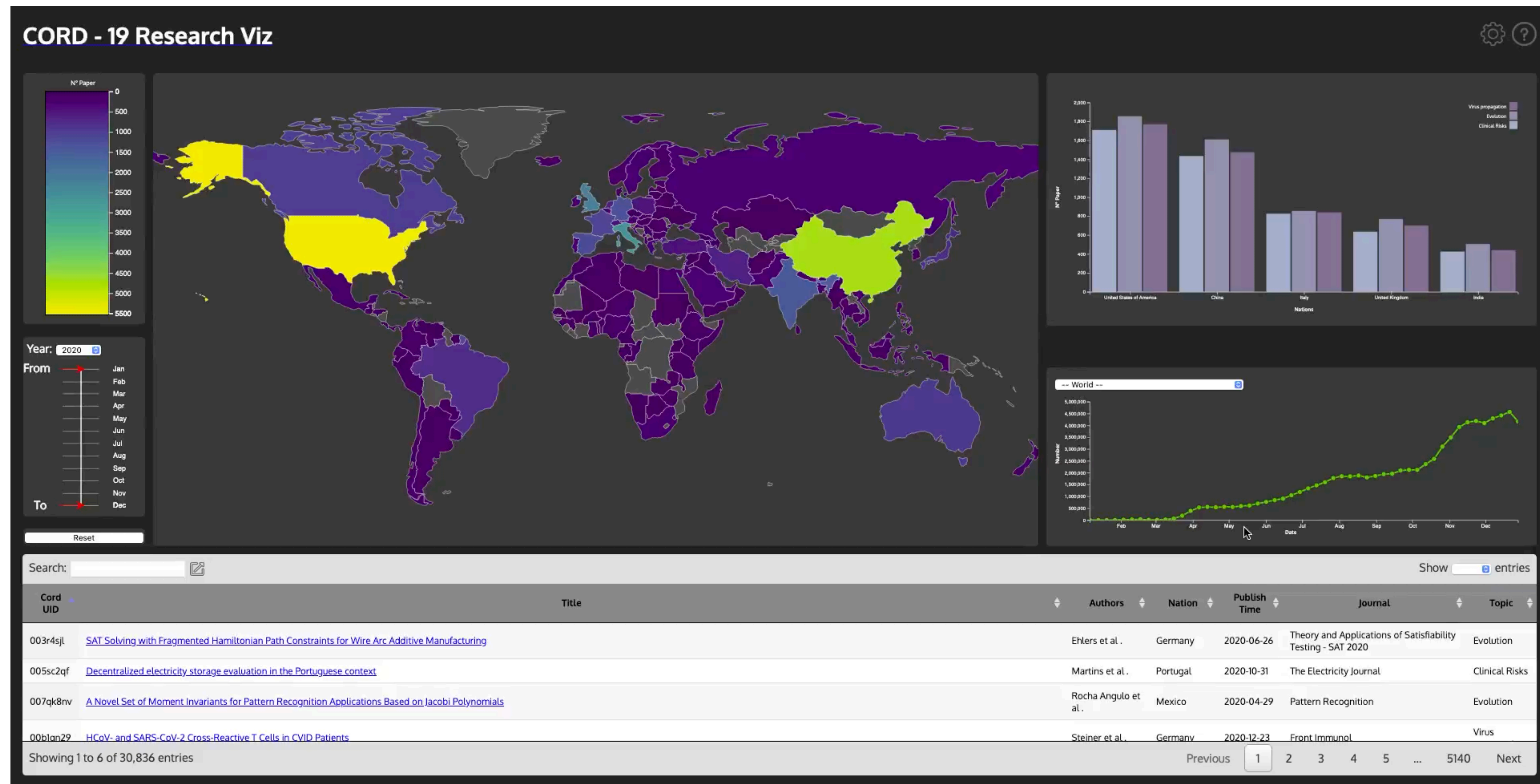
# 4. Visualization platform - Demo



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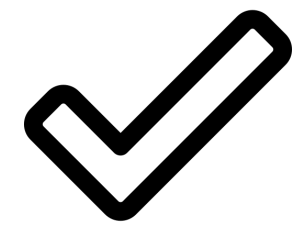


# 4. Visualization platform - Demo

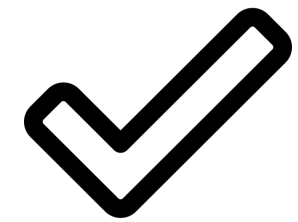


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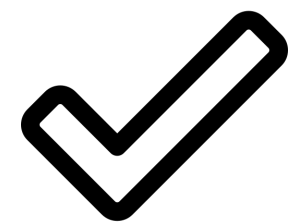
## 5. Discussion and conclusion



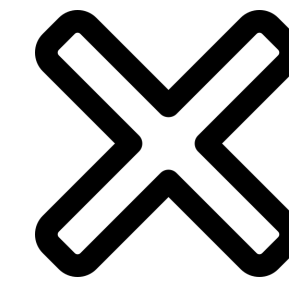
A different point of view to see the scientific research



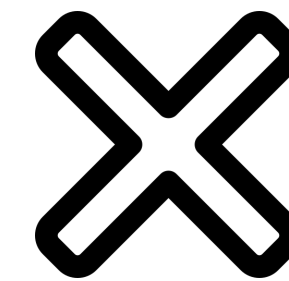
Topic classification



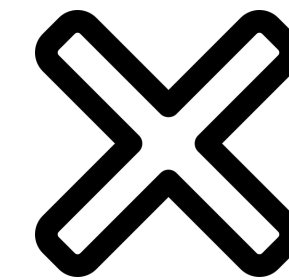
Possible generalization



Time-consuming



Local computation



Applying a neural network

# Thanks!