

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

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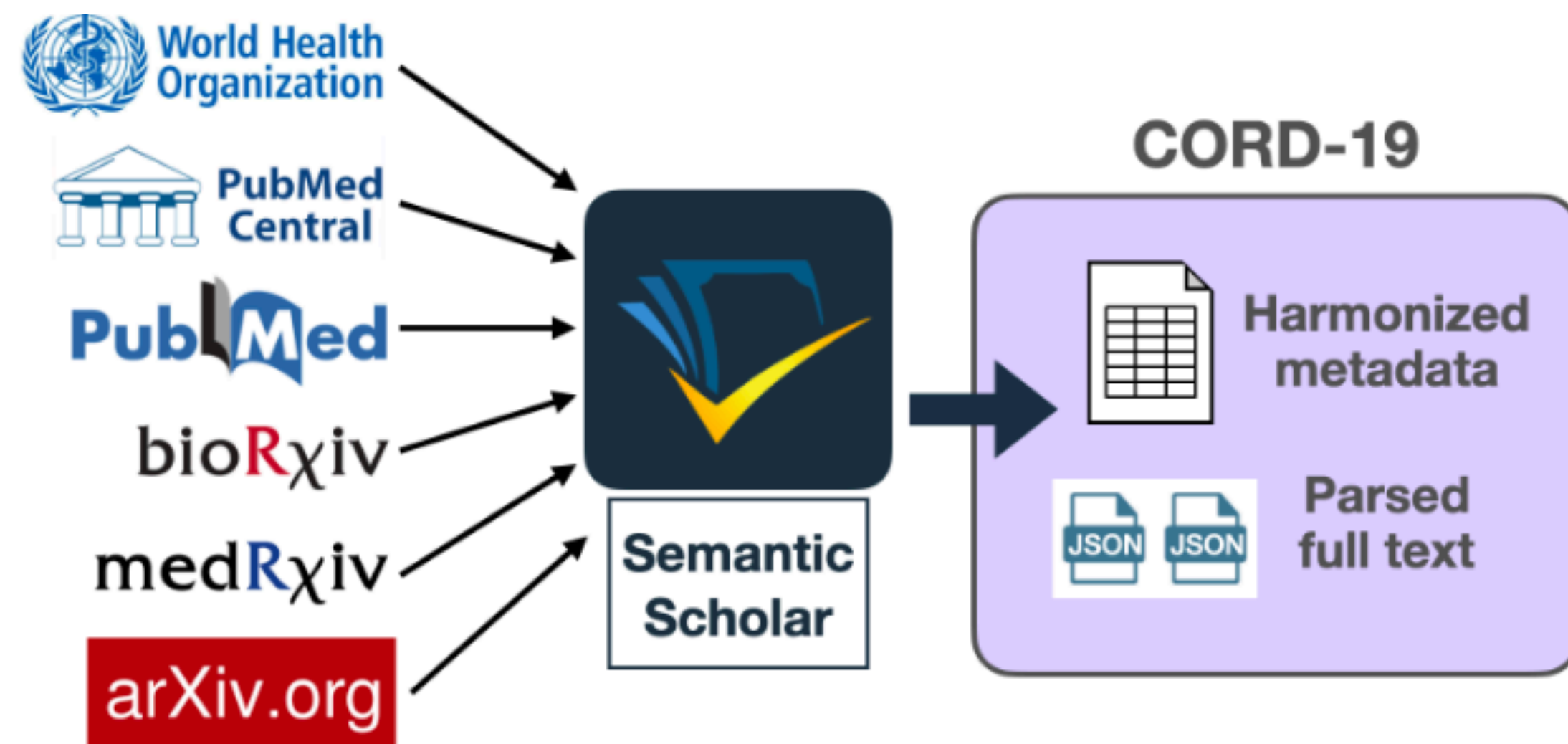
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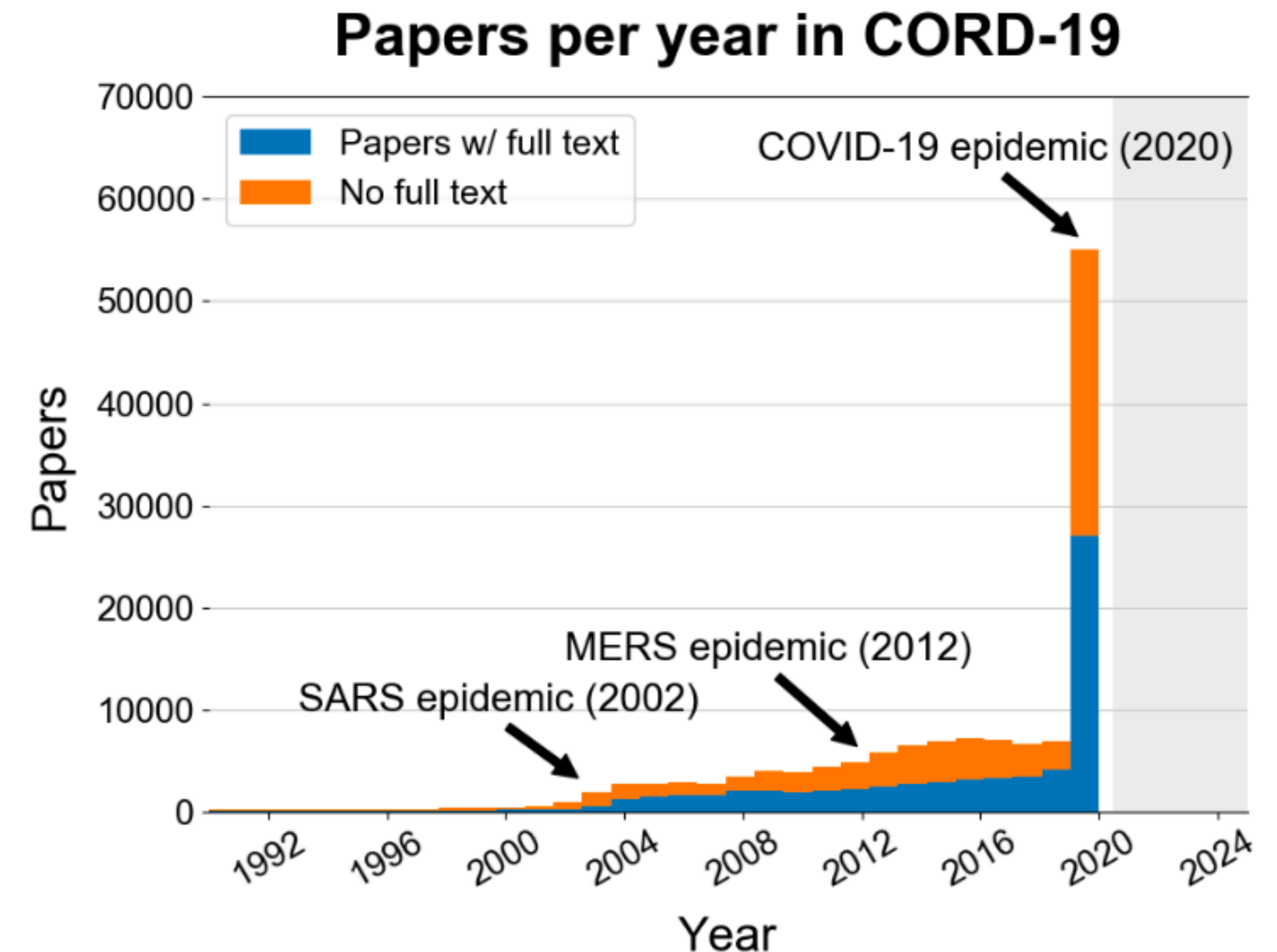
Mission

**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]

Scientific Research Visualization: A Case Study on Covid-19 Literature (G. Tasciotti – 2021)

2. Dataset

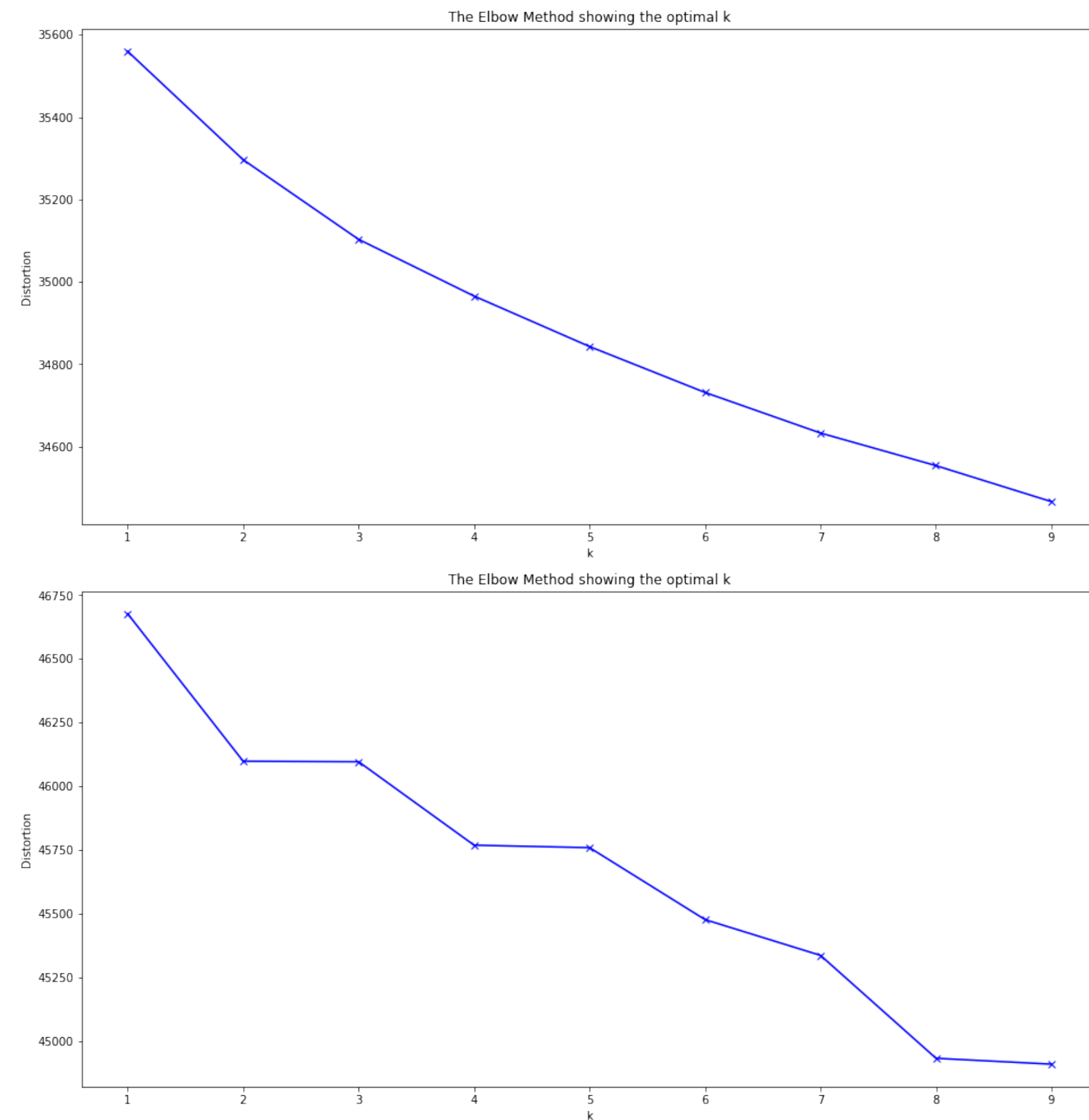
CORD-19: COVID-19 Open Research Dataset [2]

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

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3. Clustering - Original

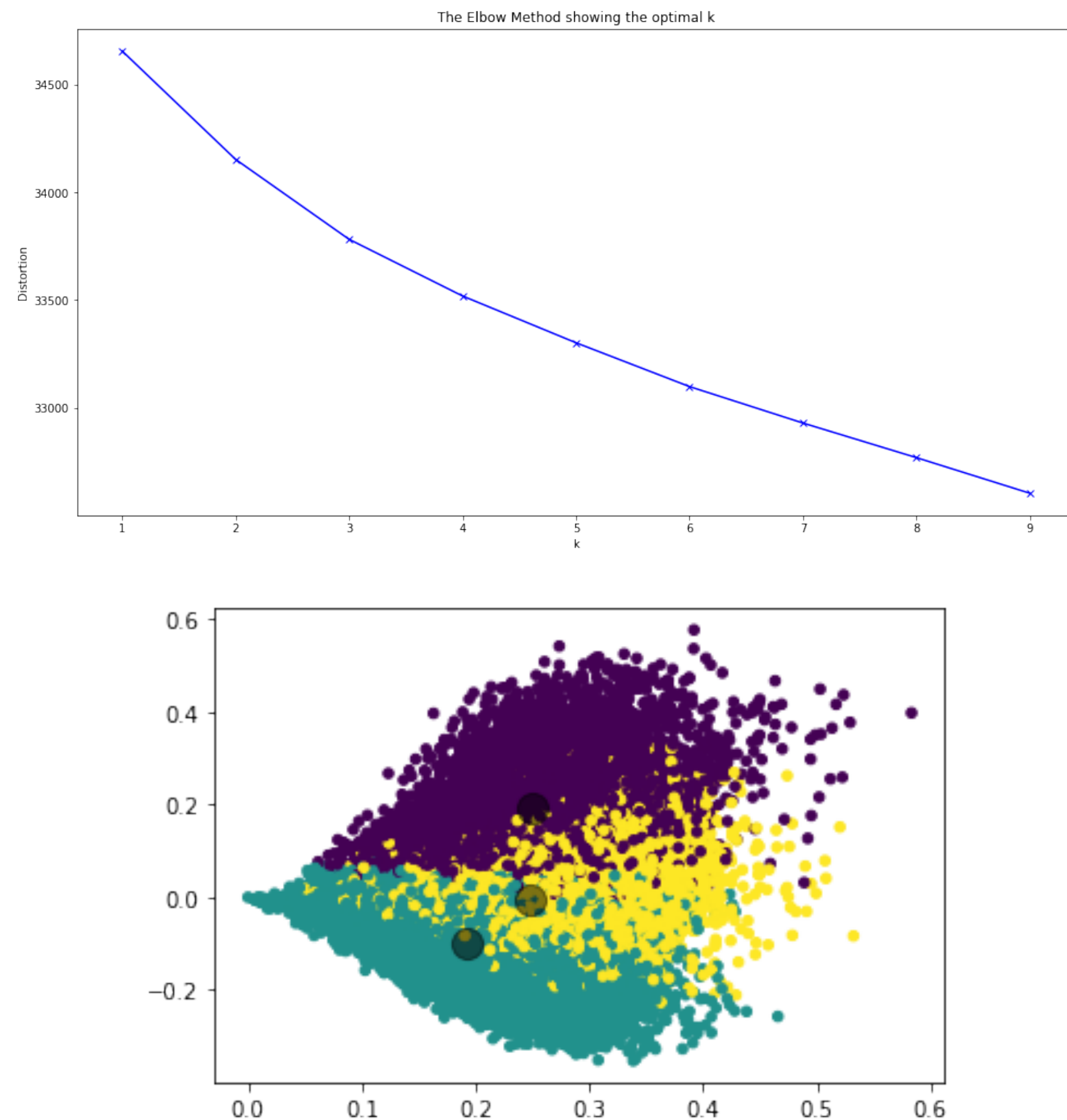
CORD-19: COVID-19 Open Research Dataset



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3. Clustering - SVD

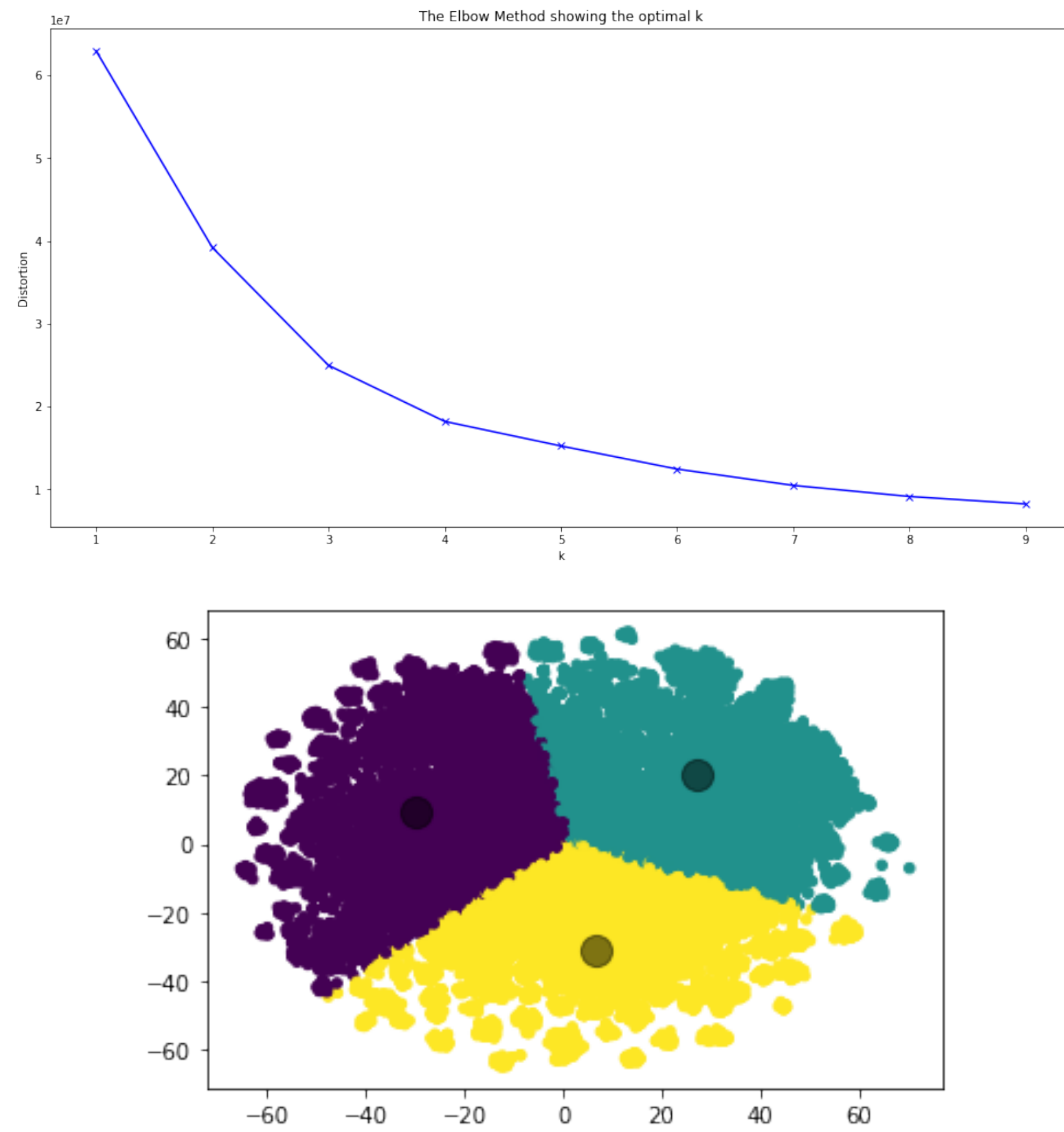
CORD-19: COVID-19 Open Research Dataset



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3. Clustering - t-SNE

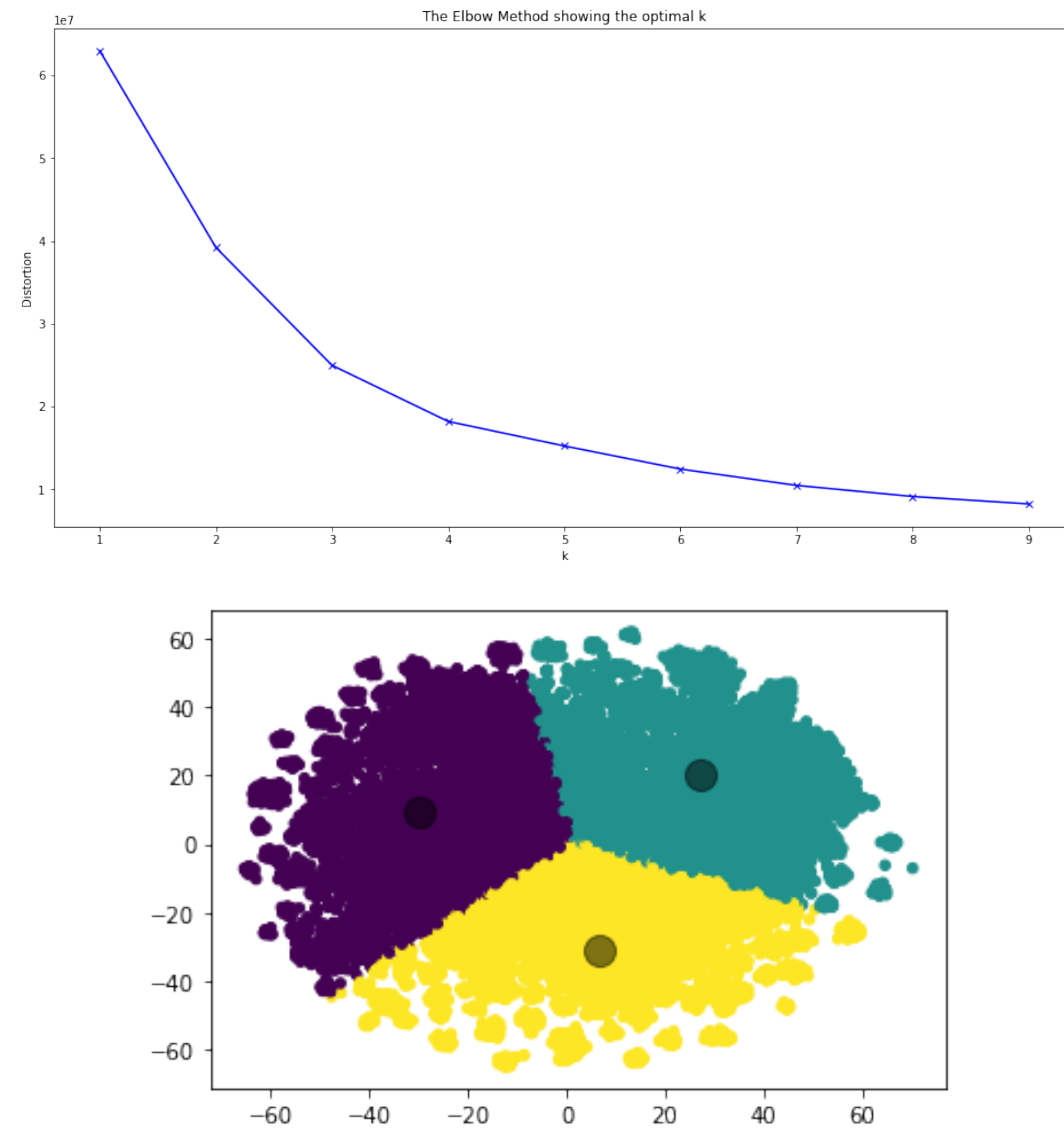
CORD-19: COVID-19 Open Research Dataset



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3. Clustering - t-SNE

CORD-19: COVID-19 Open Research Dataset



→ Societal response
to the pandemic

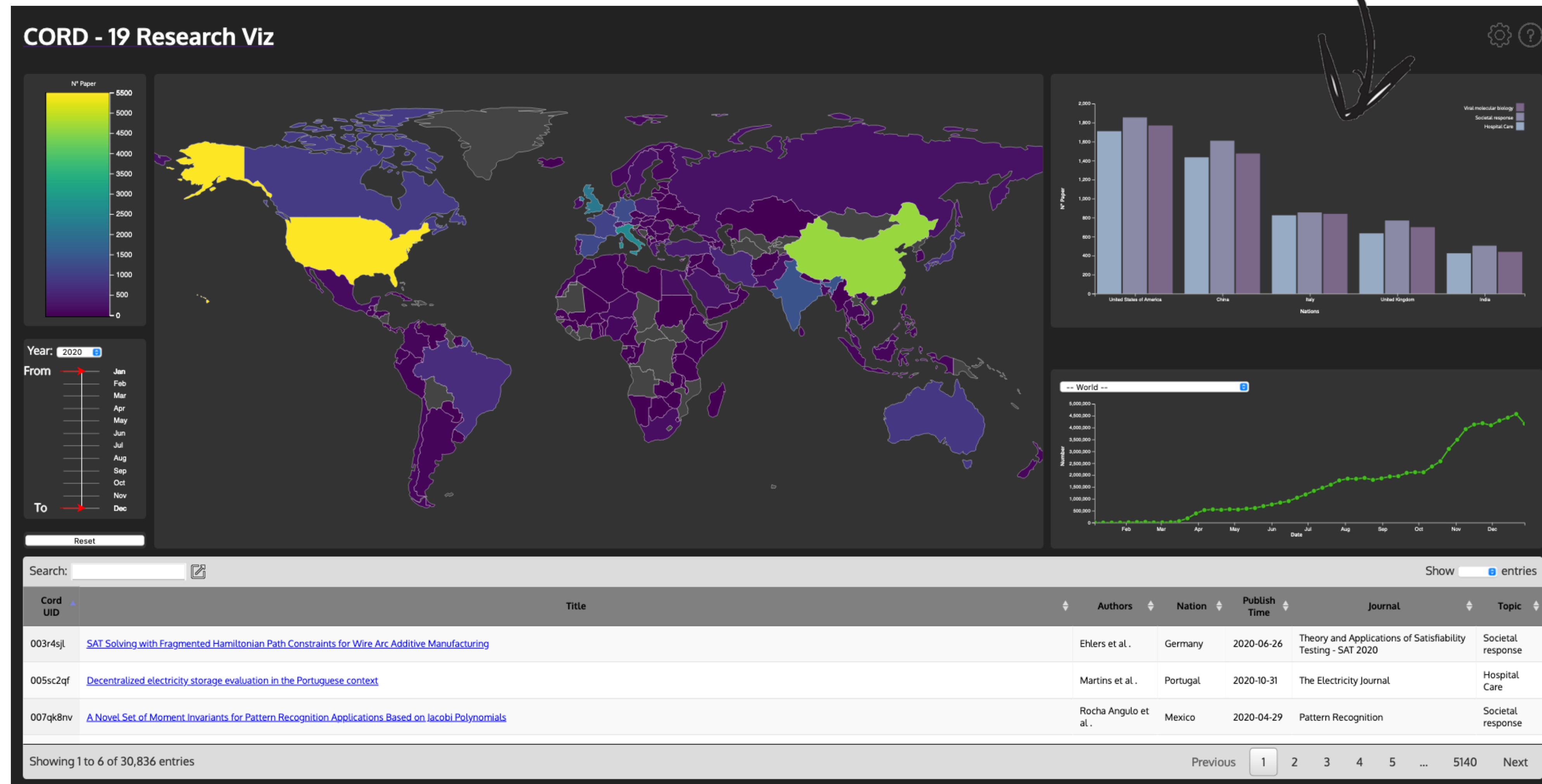
→ Viral molecular
biology

→ Hospital care

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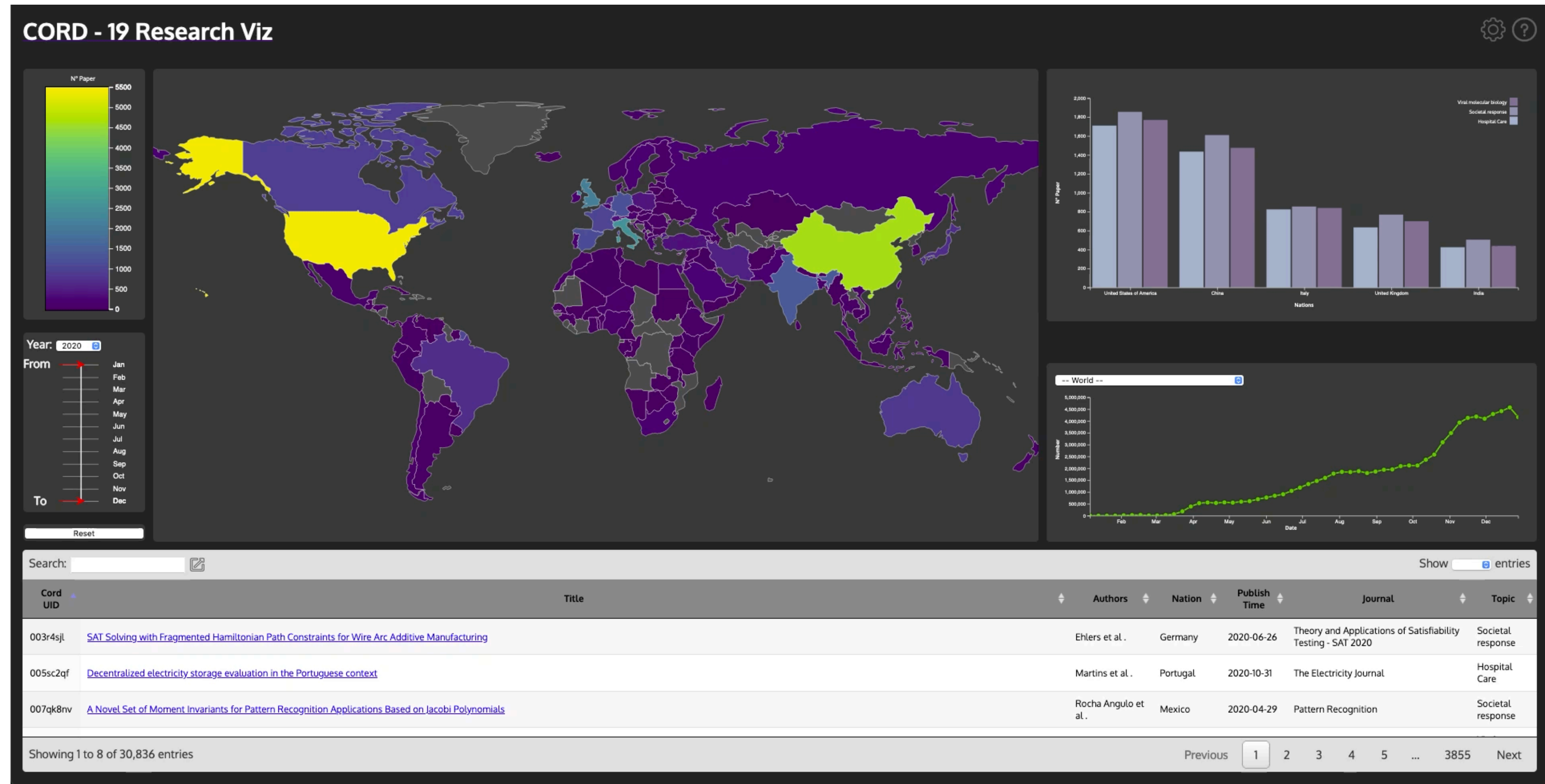
4. Visualization platform

CLICK ME



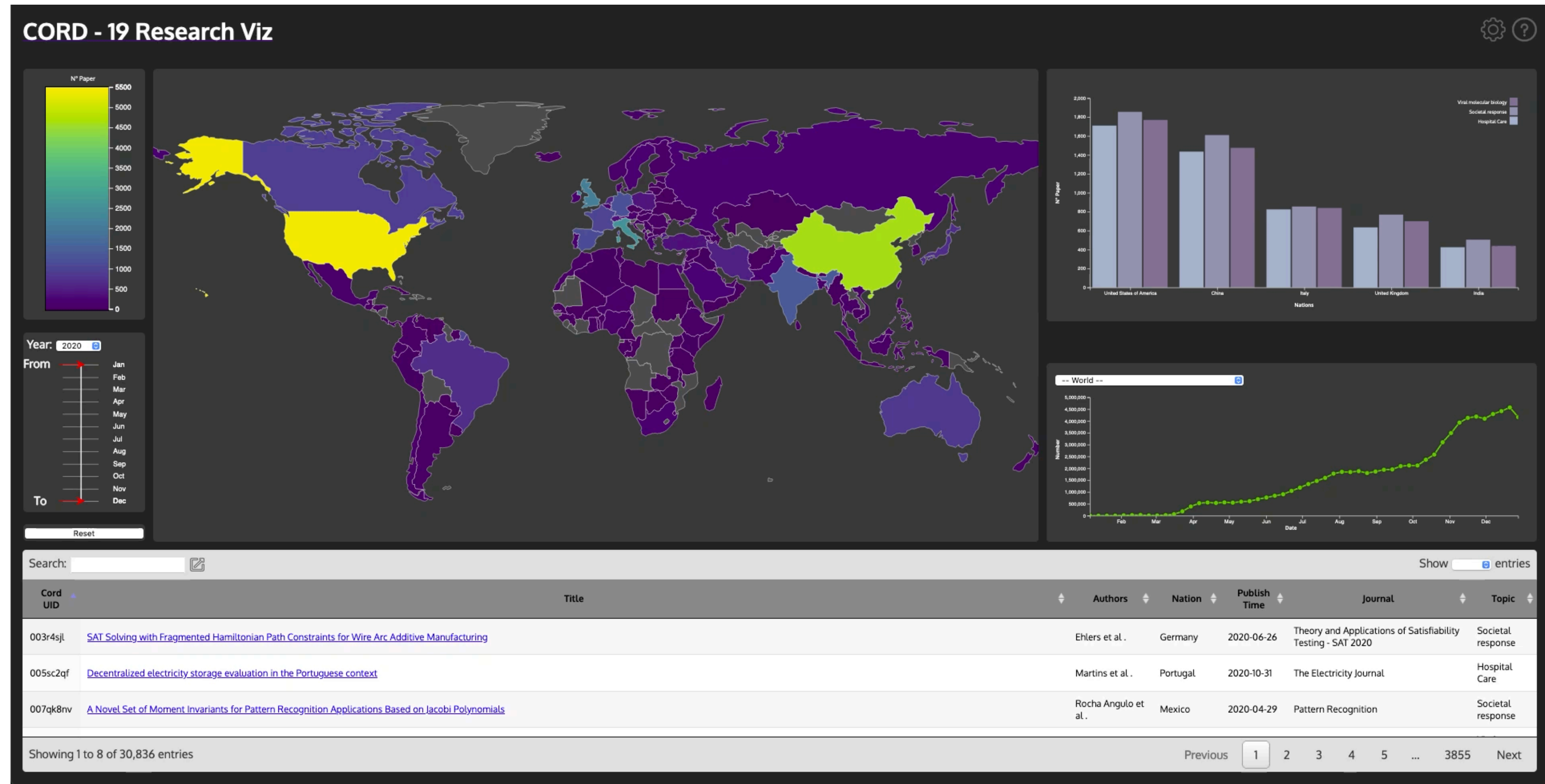
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4. Visualization platform - Demo



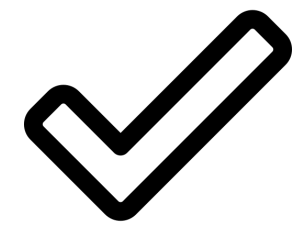
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4. Visualization platform - Demo

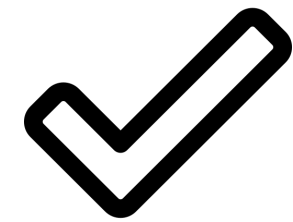


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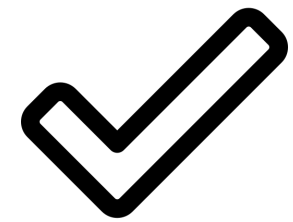
5. Discussion and conclusion



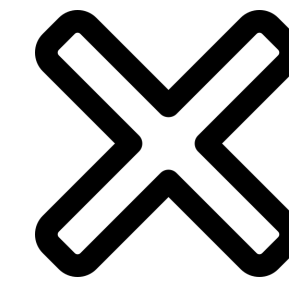
A different point of view to see the scientific research



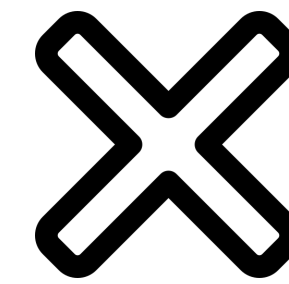
Topic classification



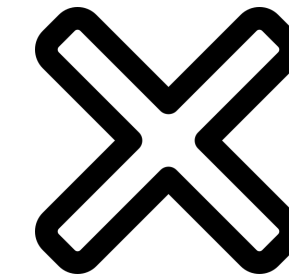
Possible generalization



Time-consuming



Local computation



Applying a neural network

Thanks!