CASE STUDIES

COVID
MISINFORMATION

Natural Language Processing	Network Analysis	Deep Learning

Factually speaking, the Covid-19 pandemic has been a global health crisis with a devastating death toll and massive economic repercussions. However, the clinical spread of the novel coronavirus has been made worse by the infodemic that has ensued. The WHO describes an infodemic as *"too much information including false or misleading information in digital and physical environments during a disease outbreak. It causes confusion and risk-taking behaviours that can harm health. It also leads to mistrust in health authorities and undermines the public health response."*

PROBLEM

In a digital world, **falsehoods** regarding the causes, treatments or alleged cures for a virus can **spread as quickly and as pervasively as the virus itself**. Identifying and containing erroneous and deceitful messages, and even more importantly, pinpointing their sources and disrupting the amplification channels is of utmost importance.

In this context, we were approached by the Health Department of a Regional Government in order to assist them in assessing precisely that: **the levels of pervasiveness** of fake information in a specific language, as well as **which main ideas** were being spread – and who the **key disseminators** were.

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We applied our Natural Language Processing (NLP) models to social media content and performed analysis across different text-based platforms (e.g. Twitter, blogs, etc.) With this approach, we were able to identify the **most recurring topics and key ideas and what entities were the most frequently referenced**. At the same time, we surfaced patterns that identified that, for instance, an overwhelming majority of the content of questionable veracity featured a heavy use of adjectives and adverbs designed to **appeal to the reader's emotions and feelings** of anger and fear, over factual accuracy.

Grading sources according to an influence score allowed us to separate the **true influencers** from **regular users**.

Natural Language Processing

Lack of Factual Rigour

Incitement of Emotional Responses
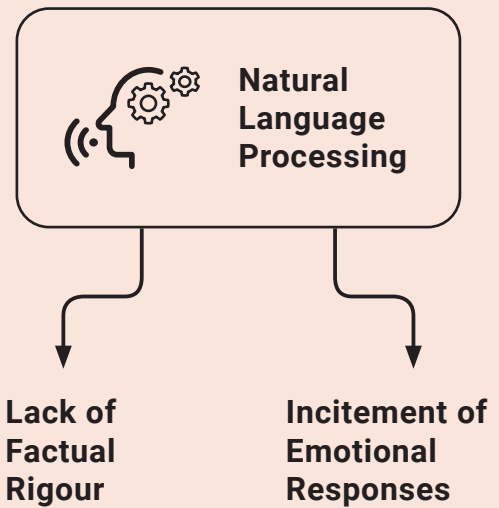
Through our Network Analysis algorithms, we were able to map from which clusters of accounts the messages originated, and if there was any **signal boosting** being carried out by bots, whose sole purpose was to retweet or repost said messages to disseminate the fake information far and wide. Grading those sources according to an influence score allowed us to separate the true influencers from regular users.

SOLUTION

Armed with the distilled insights we provided regarding both bogus Covid-related content and the main dissemination pathways it was following, **the Health Department was now in a position to know exactly what they needed to do to counter with as much efficiency as possible the spread of misinformation amongst the general public**.