CASE STUDIES

ONLINE CRIMINAL ACTIVITY - DRUGS ON SOCIAL MEDIA

Natural Language Processing

Network Analysis

Deep Learning

Besides international financial fraud, human trafficking networks and illegal financing of terrorist activities, the Internet in general and social media in particular are also being used to buy, sell and distiribute illicit substances. Prescription drugs and recreational drugs alike are no longer only exchanged between that individual standing on a corner and a fidgety consumer; they are also now readily available on Instagram or Snapchat for instance, with high resolution pictures of the merchandise, offers and details about how to get them.

PROBLEM

A city police department contacted us because they identified that during the COVID-19 pandemic, in spite of the state-imposed quarantine, drugs were still being sold and bought across the city, even while the streets were virtually deserted. The dealers were obviously still getting in touch with their clients and managing to distribute their ware during lockdown via riders and other delivery systems. Selling drugs through social media is not a pandemic lockdown by-product as it has been around for years, but **COVID-19 did offer an window of increased opportunity to identify and apprehend dealers** – as distribution and interaction on the streets weren't an option anymore, it all had to be arranged via **online transactions**. Our main focus was to help identify the original online postings offering the products.

Even though there were dealers actually brave enough (or stupid enough) to post their faces and actual phone numbers along with the pictures of the pills, buds and joints, in the majority of cases "business" was conducted through a **network of hashtags and keywords**. Logically, reporting one hashtag only meant that ten more would appear in its place.

Illicit substances are readily available on Instagram or Snapchat with high resolution pictures of the merchandise and details about how to get them.

xanax
LSD MDMA
priorityshipping molly
opiates
weed4sale
pills

SOLUTION

Through our keyword analysis and AI Natural Language Processing algorithms, however, we were able to identify what groups of keywords were typically used together, in close correlation or by users with similar profiles. If not ahead of the curve, we could **help police officers keep current with the ever-changing flow of messages around this illegal activity**.

Word-of-mouth on social media platforms means reshares and new followers, and this is exactly how dealers amass increasing amounts of customers. The pictures they post get shared by one customer with their close group of friends, who may in turn comment on the original image or directly follow the dealer (both happen in the open more often than one might expect). **With the right analysis tools, all these interactions can be detected, tracked and monitored**, which was our contribution to this endeavor.