Drug name recognition in the cryptomarket forum of Silk Road 2

Romane Werner[1]
Sonja Bitzer[1] and Thomas Francois[1]
[1] Université catholique de Louvain

Anonymised drug forums and online chat rooms constitute a relevant source of information for drug use. Content found on online forums can serve as reliable sources of information with a high number of discussions taking place on various topics. Indeed, members of drug online forums usually seek drug-related information, while also sharing their own drug experiences with other users, encouraging and facilitating thus information sharing about drug purchases and effects. We aimed at investigating whether forum posts could provide useful information for national agencies as regards to both the early appearance and the monitoring of drug names. A Drug Name Recognition system was used to extract drug terms from the cryptomarket forum of Silk Road 2 thanks to a Conditional Random Fields model. This is carried out to operate a classification between the terms that are considered as either new compared to a database of well-known drugs, those that are variants of already-known drugs and those that are variants of new drug terms. Results of our analysis showed that our model enabled us to discover the presence of 232 new drug names compared to the presence of 106 traditional drug names, which reflect the importance of internet traces as being robust and exploitable with respect to crime phenomena. Online forums would thus represent promising sources for the early detection of drugs, suggesting thus that the use of an automated system could help national agencies to identify new drugs.