Increasing The Awareness About Cyber-Crime and Hate Speech in Social Media

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ABSTRACT

Data has become the currency of this era and it is continuing to massively increase in size and generation rate. Large data generated out of organizations' e-transactions or individuals through social networks could be of a great value when analyzed properly. Cybercrimes in Jordan have widely increased with the rise of users, due to the incorrect usage of communication and information technologies. In this research. The data was collected from two well-known social media applications (Facebook and Twitter) at various times for the purpose of obtaining data. Social media used for this research contains 2067 Jordanian dialect opinionated records related to cybercrimes and hate speech that has been collected from cybercrimes unit in Public Security Directorate in Jordan. Arabic hate speech and cybercrims text classification system developed and proposed.

The proposed system consists of four main stages, including: data annotation, data preprocessing, feature extraction and classification. In the first stage, the source data are annotated and the collected Jordanian (comments / tweets) are independently classified into two categories (positive/ negative). In the second stage, the collected hate speech data and cybercrimes are preprocessed through four major text classification steps, which are: tokenization, normalization, removal of stop words, and steaming using the light steamer. In the remaining stages, the text features were extracted and then classified using four selected machine learning approaches, includes: random forest, decision trees J48, Bayes naïve and SVM classifiers. The proposed Jordanian hate

speech and cybercrimes text classification system was validated using the precision, recall, and F-measure performance criteria. The proposed system using the random forest classifier achieved the best results compared to the decision trees J48, Bayes naïve and SVM classifiers.

The proposed system results are promising, it increases the awareness in the Jordanian community regarding to the cybercrimes and hate speech on social media.