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Lamassu, detecting cyber extremism via automatic lexical feature, discovery and social analysis: An application on jihad of demand networks

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Social networking websites have enjoyed a great success in recent years, apart from the numerous new opportunities that they are providing, extremist groups and terrorist organizations are using them to promote their ideology to facilitate internal communications and to evoke a planned psychological reaction in their enemies. Many web resources contain information about extremism, but a relatively small proportion comes from terrorist groups themselves and since manually monitoring and analyzing all their content separately during warfare is unattainable, solutions using automated methods are sought. This study applies machine learning techniques to perform automated extremist language detection. In this project, we proposed an approach for detecting extremist content and identifying potential extremist users in social media. The study's methodology explores features in users' histories to predict extremism via statistical topic model on an Arabic corpus which detects extremist posts with automatically generated features and a graded structure in which, whether extremism applies to a given person is a matter of degree related to multiple factors. To demonstrate our work, we created a dataset containing over 360,000 web forum posts. Experiments on a sampled data set show precision of 96.20% and recall of 94.90%.

Biography

Noor Alasadi is a Senior Data Scientist at Creditinfo Group, a leading service provider of credit information and risk management solutions worldwide. He is a Graduate Instructor and a Researcher at Damascus University, Department of Artificial Intelligence and Natural Language Processing. He is also a Member of the Scientific Committee of the ACM-ICPC in which he was a Judge, Problem Setter, Coach and Organizer in the Arab Collegiate Programming Contest (2012-2017). He was also involved in multiple private-public partnership projects with companies and authorities in the Middle East to build intelligent security systems.

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