

# **Detection of jihadism in social networks using big data techniques supported by graphs and fuzzy clustering**

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## **Abstract-**

**Social networks are being used by terrorist organizations to distribute messages with the intention of influencing people and recruiting new members. The research presented in this paper focuses on the analysis of Twitter messages to detect the leaders orchestrating terrorist networks and their followers. A big data architecture is proposed to analyze messages in real time in order to classify users according to different parameters like level of activity, the ability to influence other users, and the contents of their messages. Graphs have been used to analyze how the messages propagate through the network, and this involves a study of the followers based on retweets and general impact on other users. Then, fuzzy clustering techniques were used to classify users in profiles, with the advantage over other classifications techniques of providing a probability for each profile instead of a binary categorization. Algorithms were tested using public database from Kaggle and other Twitter extraction techniques. The resulting profiles detected automatically by the system were manually analyzed, and the parameters that describe each profile correspond to the type of information that any expert may expect. Future applications are not limited to detecting terrorist activism. Human resources departments can apply the power of profile identification to automatically classify candidates, security teams can detect undesirable clients in the financial or insurance sectors, and immigration officers can extract additional insights with these techniques.**

## **Index Terms-**

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