HACKTIVISM AND SOCIAL MEDIA: ANALYSING THE ANONYMOUS COLLECTIVE ON TWITTER

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Introduction

- The Hacktivist group Anonymous is known for having a loosely structured, swarm-like composition.[1] The group holds a disdain for hierarchy and leadership, and claims no set interest or ideologies.[2]

- Anonymous is unusual amongst hacktivist groups, relying on social media to broadcast its operations and generate publicity.

- Our research examined the presence of Anonymous on Twitter, testing its claims of being swarm-like in nature, against the group's behaviours as they appeared on the platform.[3]

Methodology

Machine Learning Classification

- A supervised machine learning approach aimed at training a model to classify inputs into one of a set number of classes.

- Used to identify over 20,000 Anonymous accounts present in a list of ~2.5million Twitter accounts.

**Social Network Analysis**

- Maps follower/friend relationships between Anonymous accounts.

- Centrality metrics are then used to measure the amount of influence each account has over the network as a whole.

Topic Modelling

- Identifies the overarching topics present in a set of tweets.

- Used to examine and compare the topics present in the tweets of the top influencer accounts identified in the Anonymous network.

Social Network Analysis

PageRank Centrality Score per Anonymous account (Top 1,000 accounts)

Fig.1

Graph Showing the Number of Anonymous Accounts Created per Year

Fig.2
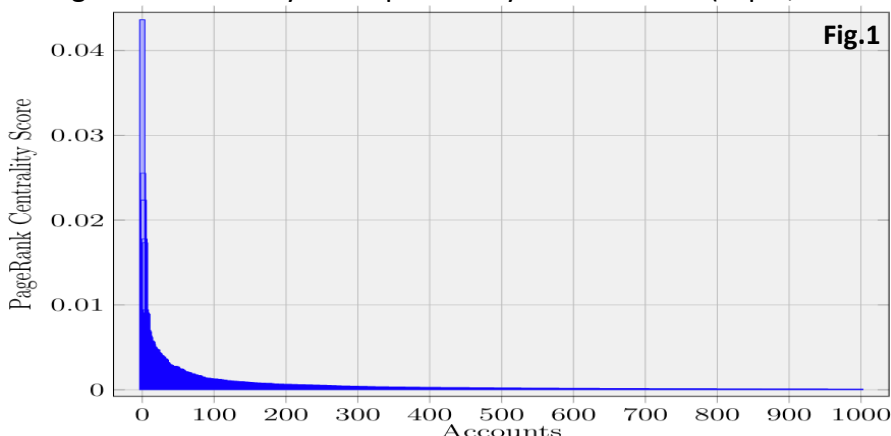
- Scores for each centrality metric are recorded in Fig.1, for the top 1,000 highest scoring accounts.

- A higher score indicates that the account has more influence over the network.

- The scores are heavily skewed towards a small number of highly influential Anonymous accounts, contradicting the group's claims.
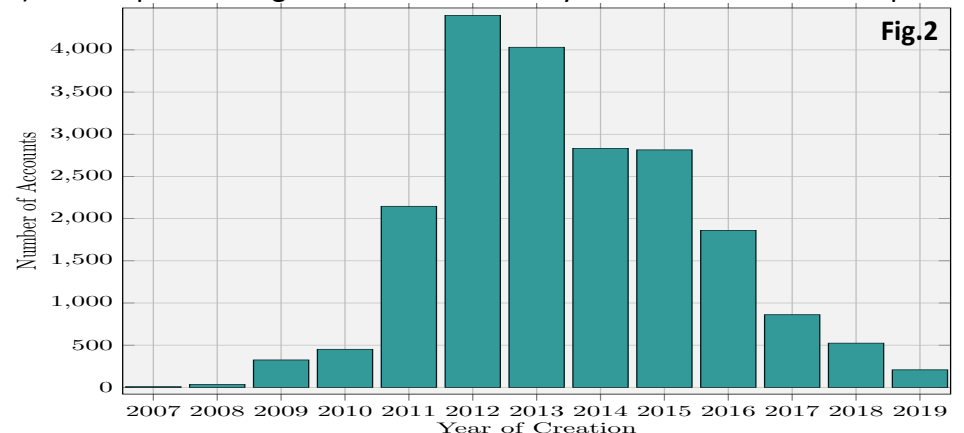
- Analysis of accounts being created over time, as seen in Fig.2, indicates a substantial drop in recent years of Anonymous accounts being created.

- The timing of this drop, around 2013, strengthens suggestions that the group fragmented after the arrest of key members around this time.

Topic Modelling

Table 1

Topics	Key Words
Conflict in Iraq	people, asylum, concern, iraq, issue, turn, hate, learn, internet, question
Donald Trump and Conflict	trump, war, crime, free, people, war_crime, time, election, feel, platform
Democrats and US Politics	democrat, post, expect, voter, exit, profit, server, goal, poll, send
Republicans and US Politics	problem, person, republican, american, identity, challenge, obama, understand, steal, order
US Politics	administration, prosecute, america, ago, pass, woman, article, long, good, bush
Brexit	expose, ireland, border, country, good, remain, life, journalist, return, password
Journalistic Freedom	freedom, press, press_freedom, people, chelseamanning, thing, bit, claim, fascist, white
EU Copyright Directive	vote, eucopyrightdirective, european, medium, democracy, response, war, uploadfilters, happen, article13
Wikileaks and Assange's Arrest	arrest, ecuador, people, human, wikileaks, wrong, publish, time, block, hold
Wikileaks and Edward Snowden	assange, torture, government, charge, wikileaks, read, whistleblower, julian, snowden, julian_assange
Anonymous and Anon Members	[Redacted], contributor, [Redacted], [Redacted], account, content, fail, [Redacted], [Redacted]
Twitter	account, twitter, live, publish, require, day, long, user, forget, simple

- The key topics were extracted from the latest 1,500 tweets of the 5 most influential Anonymous accounts identified. An example of the topics from one account can be seen in Table 1.

- An analysis of account topics revealed a focus on politics, activism, and digital security across all 5 accounts.

- This consistency in topics of interest across accounts contradicts the Anonymous' claims of being swarm-like in composition.

References

1. J.R.C Nurse and M. Bada. The Group Element of Cybercrime: Types, Dynamics, and Criminal Operations. *The Oxford Handbook of Cyberpsychology*, 2018.

2. Uitermark, J.. Complex contention: analyzing power dynamics within Anonymous. Social Movement Studies16(4):403–417. 2017

3. Behind the Mask: A Computational Study of Anonymous' Presence on Twitter. *Proceedings of the International AAAI Conference on Web and Social Media, 14*(1). 2020