19CSE356 - Social Network Analytics
Project - Abstract Phase

A meritocratic network formation model for the rise of social media influencers

Group-10

Team Members

Bokkisam Charan Sai	**AM.EN.U4CSE19314**
Musunuru Varun	**AM.EN.U4CSE19336**
R Ashwin	**AM.EN.U4CSE19343**
Vasantha Gopikrishna	**AM.EN.U4CSE19359**

Paper Details:

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Authors: Nicolò Pagan, Wenjun Mei, Cheng Li, Florian Dörfler

Abstract:

A significant number of the present most utilized internet-based social communities like Instagram, Youtube, Twitter, or Twitch depend on User-Generated Content (UGC), and the investigation of this content is upgraded by the incorporated web indexes. Earlier multidisciplinary exertion on concentrating on interpersonal organization arrangement processes has special topological components or socio-key motivating forces. Here, this paper proposes an immaculate meritocratic methodology propelled by experimental proof on Twitter information: entertainers consistently look for the best UGC supplier. It contains the information genuinely and mathematically examine the organization equilibria properties: while the normal outdegree of the hubs remains limited by the logarithm of the organization size, the normal indegree keeps a Zipf's law regarding the quality positioning. Prominently it contains a quality-based instrument that gives a natural clarification of the beginning of Zipf's consistency in developing interpersonal organizations. Our hypothetical outcomes are observationally approved against huge informational indexes gathered from Twitch, a quickly developing stage for internet gamers.

Explanation:

Dealing with complex real-world networks poses several problems. In particular, systems are continuously changing not just in terms of network ties, but also with new nodes (users) joining and leaving the networks. To specifically validate the model results, requirements are (i) first to identify a suitable category of common interest, and (ii) second to reconstruct the social network among the users that show interest in this category.

User-Generated Content (UGC) is at the heart of many of today's most popular online social networks, such as Instagram, YouTube, Twitter, and Twitch (UGC). Users of these sites can discover and follow their peers depending on the UGC and its quality thanks to the integrated search engines. Based on actual evidence from Twitter data, we offer an unexplored meritocratic approach for directed network formation: Actors are always on the lookout for the greatest UGC provider. We investigate the properties of network equilibria under various meeting probabilities both theoretically and numerically: our model predicts that the expected in-degree follows a Zipf's law concerning the quality ranking while incorporating common real-world network properties such as scaling law and small-world effect. Notably, the findings are unaffected by the effect of recommendation systems simulating

- **The impact of social networks on our lives has grown increasingly multifaceted since the explosion of online services in the last couple of decades: they play central roles in the dissemination of information, the adoption of new technologies, the**

diffusion of healthy behaviour, and the formation and polarisation of public opinion, to name a few.

- To accomplish so, they used a numerical analysis of the results of a preferential attachment in-degree-based meeting procedure, which mimics the assumption that the platform's recommendation algorithm would encourage popular individuals.
- The disparity could be attributable to the fact that the network is still in its early stages of development, and many users have only lately joined. These new users have only just begun their search, and there are a lot of low out-degree nodes. Another possible factor could be the Twitch platform's recommendation engines.

Dataset Information:

Basically the dataset is divided into two parts (i) Twitch Data (ii)Twitter Data
Twitch and Twitter are social networking sites and has more influence among people. The Twitter data-set and the Twitch data-sets are respectively available below.

1)Twitch Dataset
2)Twitter Dataset