Carnegie Mellon University
Computer Science Department

Speaking Skills Talk

FLOCK: Combating Astroturfing on Livestreaming Platforms

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Livestreaming platforms have become increasingly popular in recent years as a means of sharing and advertising creative content. Popular content streamers who attract large viewership to their live broadcasts can earn a living by means of ad revenue, donations and channel subscriptions. Unfortunately, this incentivized popularity has simultaneously resulted in incentive for fraudsters to provide services to astroturf, or artificially inflate viewership metrics by providing fake live views to customers. Our work provides a number of major contributions: (a) formulation: we are the first to introduce and characterize the viewbot fraud problem in livestreaming platforms, (b) methodology: we propose FLOCK, a principled and unsupervised method which efficiently and effectively identifies botted broadcasts and their constituent botted views, and (c) practicality: our approach achieves over 98% precision in identifying botted broadcasts and over 90% precision/recall against sizable synthetically generated viewbot attacks on a real-world livestreaming workload of over 16 million views and 92 thousand broadcasts. FLOCK successfully operates on larger datasets in practice and is regularly used at a large, undisclosed livestreaming corporation.

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