Bot Taxonomy Proposal

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Abstract

Bots are used to automate several things. The applicability of bots range from perform editing activities to mimic the human behavior. This document has a bot taxonomy proposal based on their characteristics. This article was motivated by the idea that a bot taxonomy may help to study their capabilities and properties.

I. INTRODUCTION

Computers help humans to speed up computations and to automate things. One of the ways in which computers help us to automate tasks is by creating a program that does it. Software bots are computer programs that perform a given task they were programmed for.

There are bots that are able to write articles. In this category falls a bot called Lsjbot. That boot created about 454,000 articles and that is bout the half od the articles in Swedish Wikipedia [Guldbrandsson,]. Another example is ClueBot NG, which is a bot that cleans up vandalism from articles. [**?**] mentions a situation where that bot identified a message that belonged nowhere in an article of the national supreme court.

Some of them are so sophisticated that can even answer queries by using natural language algorithms[technologyreview.com,]. It seems there are two different types of bots: Social bots and editing bots. When multiple social bots are controlled by a person that is called Sybil[Emilio Ferrara and Flammini,].

[Kuhn, 2015] mentions botnets which seems to be similar to Sybil. The difference seems to be that botnets are intended to be used with malware and Sybils are social bots.

[Emilio Ferrara and Flammini,] mentions that early bots mainly modified content au-tomatically, examples of that are [wik, 2014a] and [wik, 2014b]. It is also mentioned the existence of social bots which is considered as a computer algorithm that automatically produces content and interacts with humans on social media; e.g. Twitter or Facebok. Two main categories of bots: Social Bots and Work Bots. A social bot may work along with other social bots.

According with [Emilio Ferrara and Flammini,] exist bots that are aimed to mimic humans. While there are benign bots they can be created to persuade, smear or deceive also. Real users seem to spend more time looking at other user's contents and messaging than Sybil.

Wikipedia page about creating wikipedia bots to aid article creation[Wikipedia,] and this other to request the creation of a bot: `http://en.wikipedia.org/wiki/Wikipedia:Bot_requests`

— How good boots are used: Wikipedia Bot Writes 10,000 Articles a Day: `http://news.discovery.com/tech/robotics/wikipedia-bot-writes-10000-articles-a-day-140715.htm`

II. PROBLEM

Mention section Engineered social tampering of The Rise of Social Bots: `http://arxiv.org/pdf/1407.5225v2.pdf` [technologyreview.com,] believes bots may be

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less easy to detect as the time goes on. That reference mentions cases where bots and humans work together and the bot uses the account of a human to publish messages with Twitter; there may be cases where the human account is hacked and the bot publishes messages from a hacked account.

III. Taxonomies

Some of them are benign and, in principle, innocuous or even helpful: this category includes bots that automatically aggregate content from various sources, like simple news feeds[Emilio Ferrara and Flammini,]

Editing bots: According with [Kuhn, 2015] bots can be independent pieces of software which are capable of perform small tasks like create nanoposts. Swedish Wikipedia surpasses 1 million articles with aid of article creation bot: http://blog.wikimedia.org/2013/06/17/swedish-wikipedia-1-million-articles/

Social bots: Distractors[Abokhodair et al. 2015].Smoke screening strategies. Political campaigns orchestrated by social bots[Ratkiewicz et al. 2011a]. Bots-Human (maybe cyborg?) bot Bots that hack accounts vs A second category of social bots includes malicious entities designed specifically with the purpose to harm[Emilio Ferrara and Flammini,]; inflate support for a political candidate. In fact, these kinds of abuse have already been observed: during the 2010 U.S. midterm elections [Ratkiewicz et al. 2011a];. Campaigns of this type are sometimes referred to as astroturf or Twitter bombs[Emilio Ferrara and Flammini,].

Botnets: [Moheeb Abu Rajab, 2006] refers to botnets as a network of infected hosts which are called *bots*. In this context those bots are controlled by a human operator which is called *botmaster*. That definition is similar to the definition of *Sybil* [Emilio Ferrara and Flammini,]. However, a botnet is meant to be utilized by malware according to[Moheeb Abu Rajab, 2006].
Search Bot, Crawler, Feed Fetcher.

IV. Detection

innocent-by-association strategy), ?Sybil until proven otherwise? approach(opposite to the first)[Emilio Ferrara and Flammini,]

The rise of social bots: Fighting deception and misinformation on social media: INDIANA UNIVERSITY: http://itnews.iu.edu/events/the-rise-of-social-bots-fighting-deception-and-misinformation-on-social-media.php

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