Computational Propaganda:
Challenges and Solutions

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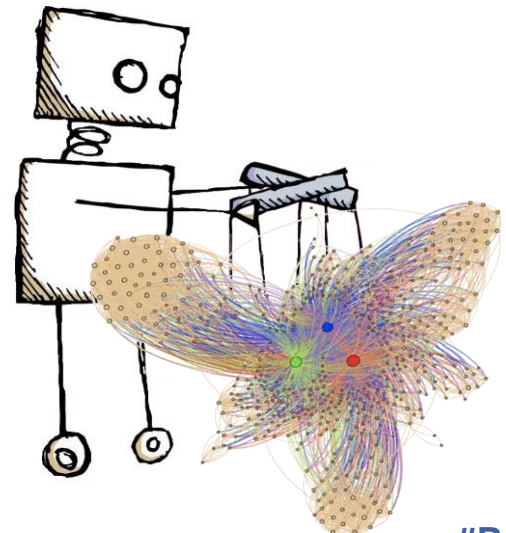IFTF.org/DigIntel
14th Plenary Assembly of ParlAmericas
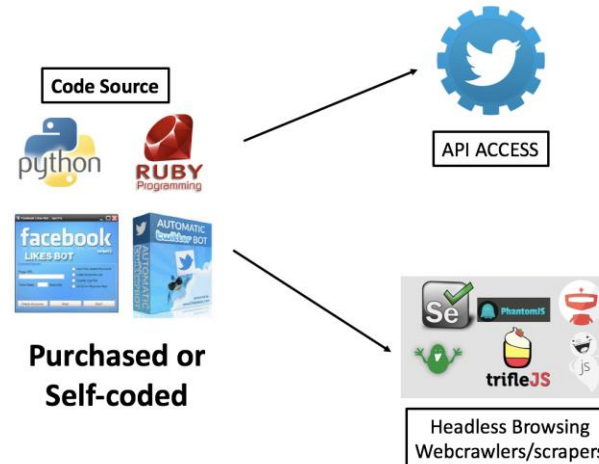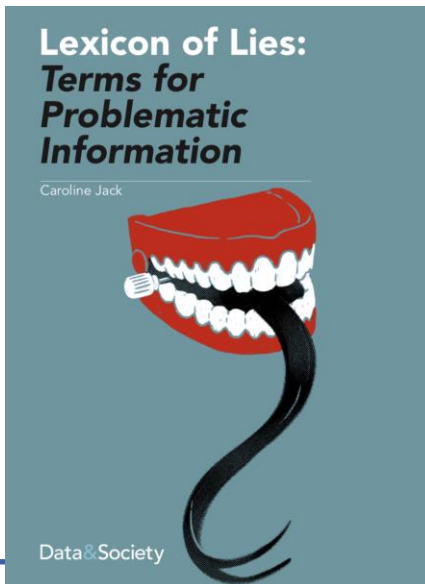#PA14Col

Roadmap

- What is Computational Propaganda?

- Examples of ComProp in US and UK 2016

- Effective Solutions

What is Computational Propaganda?

- Malicious use of software to megaphone or dampen political messages online, with the goal of manipulation of public opinion.
- Problem is both computational and social in nature. **International** and **cross-platform** presence.
- **Social media bots**: code that controls profile accounts on social media, deployed to effect a political goal.
- Misinformation v. Disinformation

Lexicon of Lies: Terms for Problematic Information

Caroline Jack

Data&Society

Code Source

python
RUBY Programming

facebook LIKES BOT
AUTOMATIC twitter BOT

Purchased or Self-coded

API ACCESS

Se PhantomJS
trifleJS js

Headless Browsing Webcrawlers/scrapers

What Can Bots Do?

- **Megaphoning**: amplify a message to manufacture consensus. Dampen a message to thwart opposition/organization (hashtag hijacking, poisoning).

- **Promote transparency/protest**

- **Harassment**: persecution of perceived opposition

- **Crawlers:** gather intelligence, report analytics, etc.

- **Malware bots:** more cybersecurity-oriented, "botnets" overload websites with DDoS attacks (Mirai Botnet 2016).

Brexit Campaign (June 2016)

- Bots played *"a small but strategic role"* in Brexit conversations online

- Bots were deployed on both sides, but the pro-Brexit bots dominated

- *"less than 1 percent of sampled accounts generate almost a third of all the messages."* (Howard and Kollanyi, 2016)

Table 1: Hashtag Use on Twitter, by Perspective on the UK Referendum

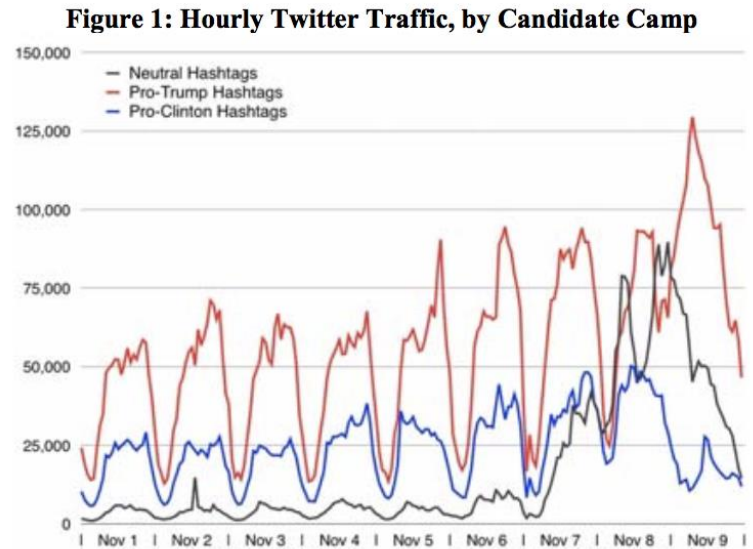| Perspective	N	%
Remain (#strongerin, #remain, #voteremain, #votein, #bremain, #labourin, #votestay, #intogether, #labourinforbritain, #greenerin)	363,217	20
Leave (#brexit, #voteleave, #leaveeu, #takecontrol, #betteroffout, #voteout, #beleave, #brexitthemovie, #euistheproblem, #brexitbustour)	993,176	54
Neutral (#euref, #eureferendum, #inorout, #eudebate, #june23)	475,233	26
Occurrence of All Above Hashtags	1,831,626	100

Source: Author's calculations based on Twitter sample of these hashtags June 5-12, 2016.
Note: This table reports the number of times these hashtags were used, not the number of tweets.

US Presidential Election (2016)

- **Nevada Primary** – "Latino" bots supporting Trump

- **Debates** – pro-Trump vs. pro-Clinton bot activity ratio 4:1

- **Election day** – ratio widens to 5:1

- Several accounts "went dark" on Nov. 9, became active in May for French Elections (Ferrara 2017)

Figure 1: Hourly Twitter Traffic, by Candidate Camp

- Neutral Hashtags
- Pro-Trump Hashtags
- Pro-Clinton Hashtags

Source: Authors' calculations from data sampled 1-9/11/16.
Note: This figure is based on the hashtags used in the tweets

Potential Solutions

- Blue-ribbon commissions of academic experts, private-sector executives and legislators

- Data sharing – amongst and between researchers and private companies

- More transparency around advertising/automation

- Solutions must be also both **human** and **computational**

"When I realized that people believe what the Internet says more than reality, I discovered that I had the power to make people believe almost anything"

– Andrés Sepúlveda

How to Hack an Election