Disinformation 2.0
About Ingenia

www.ingenia.es
Disinformation 2.0

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1. Context
2. Fake news
3. The psychology of disinformation
4. How to detect a disinformation campaign
5. How to deal with a disinformation campaign
6. Conclusions
Context

1938: First fake news in history?
Context
Current events: Spain

Your network was hacked and encrypted.
No free decryption software is available on the web.
Email us at SYDNEY.WILEY@PROTONMAIL.COM (or) EVANGELINA.MATHEWS@TUTANOTA.COM to get the ransom amount.
Keep our contacts safe. Disclosure can lead to impossibility of decryption.

Please, use your company name as the email subject.
TAIL:BCVx43EqeRs=

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Ransomware hits Spanish companies sparking *WannaCry* panic

Spanish companies’ networks shut down as result of ransomware

**Alerts Light On for Ransomware Attack in Spain**
Context

Current events: Spain

KPMG España (@KPMG_ES)

KPMG está analizando todos sus ordenadores y no hay ningún caso de ciberataque de 'ransomware'. Os mantendremos informados si hay alguna novedad al respecto.

12 p. m. · 4 nov. 2019 · Twitter Web App

Accenture España (@AccentureSpain)

Os confirmamos que Accenture NO ha recibido ningún ciberataque y que estamos operando con absoluta normalidad.

16 p. m. · 4 nov. 2019 · Twitter for iPhone

KPMG is analyzing all its computers and there is no case of 'ransomware' cyber attack. We will keep you informed if there are any developments.

We confirm that Accenture has NOT received any cyber attacks and that we are operating with absolute normality.
Context

Current events: Spain

Application to incident response and security teams

- Fake news & Deepfake threats received by SOC clients or the SOC’s own organization
- Digital surveillance service:
  - Prevent and anticipate smear campaigns
  - Crisis management
Context

2017

2022
more than half
of the news
consumed online will
be fake

Source: Gartner Top Strategic Predictions for 2018 and Beyond
Context

If we add up...

- **Algorithm** 30%
- **Spreading** 70%
- **False/Truth** 86%
- **Internet** 92%

Eliminated 2.2 B false accounts

212M€ in advertising banners

78.000.000.000$

Sources:
- Digital News Report - Universidad de Oxford y Universidad de Navarra
- The spread of true and false news online – MIT
- I Estudio sobre el Impacto de las Fake News en España - Simple Lógica & Universidad Complutense de Madrid
- Observatorio Nacional de las Telecomunicaciones y la Sociedad de la Información 2018 (ONTSI)
- Transparency report. Facebook – 1ºT 2019
- Global Disinformation Index
- The economic cost of bad actors on the internet - CHEQ and the University of Baltimore
_Context_

#PizzaGate

U.S. Presidential Election - 2016
Context
Veles (Republic of North Macedonia)

Democratic Party ➔ $2,500/day

FAKE NEWS EXAMPLES
Michelle Was Caught Cheating with Eric Holder - OBAMA IS FURIOUS!!!
Bill Clinton loses it in interview - admits he's a murderer

JUST IN: Sarah Palin Hospitalized After Being Hit By Car
BREAKING: Donna Brazille dies in fiery car crash
Context

WhatsApp – Metro Bank

 Shares in Metro Bank tumble – again
Investors are getting nervous...
www.bbc.com

Urgent. Guys if anyone has metro bank account with money or locker. You need to empty as soon as possible. The bank is facing lot of financial difficulties and may be shut down down or going bankrupt. Their share price and market capital has dropped by 85% since last year and they may not get funding. If your money or locket gets trapped might be harder to pull money out or even loss. Please withdraw all lockers and keep in a safe place. https://www.bbc.com/news/business-48215674
Fake news

Characteristics

- Benefit $
- State actors
- Deliberate misinformation
- Pseudo-journalistic product
- Newly created media
- Bots
- Subjective information
- Loss of confidence

Source: Flaticon
Psychology of disinformation

Why do we share and viralize fake news?
Psychology of disinformation
Why do we share and viralize fake news?

Source: Freepik
How to detect a disinformation campaign

Content: tips
How to detect a disinformation campaign

Images

3 checks:
- Metadata analysis
- Error Level Analysis (ELA)
- Reverse image search
How to detect a disinformation campaign

Use case 1: image analysis
How to detect a disinformation campaign

Use case 1: image analysis: metadata

- ExifTool
- FOCA
- FotoForensics
- Reveal
- ImgOps
- Get-Metadata
- Jeffrey's Image Metadata Viewer

**Image Verification Assistant**
helps you to analyse the veracity of online media

Copy a URL or Drag & drop an image from the web

Upload an image

**File Modification Date/Time**: 2017:10:01 23:50:27+02:00
How to detect a disinformation campaign

Use case 1: image analysis: ELA

- Based on the compression levels of an image → change → almost imperceptible color change
  - Forensically
  - FotoForensics
  - Reveal
How to detect a disinformation campaign

Use case 1: image analysis: ELA
How to detect a disinformation campaign

Use case 1: image analysis: reverse image search

- Google images
- BING images
- Yandex images
- Baidu
- Tineye
- Reveal
- IntelX
- RevEye Reverse Image Search

Visually similar images
How to detect a disinformation campaign

Use case 1: image analysis: reverse image search

Pages that include matching images

There's fake news in Catalonia too | In English | EL PAÍS
https://elpais.com | In English | Catalan Secessionist Challenge
980 x 570 - Oct 2, 2017 - From this Sunday, with the use of real and fake images and interpretations in line with the international views that prevail in Russia, the Catalan ...

Fake images from the Catalan referendum shared on social ...
https://elpais.com | In English | Catalan Secessionist Challenge
980 x 570 - Oct 6, 2017 - This past week several fake photos and videos of police action during the referendum in Catalonia have been used to denounce the actions of ...

Catalonia secession: 'Help Catalonia': a video full of ... - El País
https://elpais.com | In English | Catalan Secessionist Challenge
980 x 570 - Oct 17, 2017 - Propaganda-style film by Catalan independence association Omnínum ... blog, which aims to analyze and pick apart fake news and falsehoods.

Fake news: Russia, misinformation and social networks | In ...
https://elpais.com | In English
980 x 570 - Dec 4, 2017 - ... it used a mix of DDOS attacks and fake stories to fan ethnic riots in Estonia ... There's fake news in Catalonia too: Russian meddling machine ...
How to detect a disinformation campaign

Use case 1: image analysis

The photo is a fake. The 'estelada' is a montage.
How to detect a disinformation campaign

Use case 2: SNA analysis - Chile

#ChileDesperto #ChileQuiereCambios
How to detect a disinformation campaign

Use case 2: SNA analysis - Chile
# _How to detect a disinformation campaign

## Use case 2: SNA analysis - Chile

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<th>Out-Degree</th>
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<th>Closeness Centrality</th>
<th>Eigenvector Centrality</th>
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How to detect a disinformation campaign

Use case 2: SNA analysis - Chile
How to detect a disinformation campaign

Use case 2: SNA analysis - Chile

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<th>English-specific features</th>
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<th>Bot score based on</th>
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<td>Content: 4.5</td>
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<td>All features: 4.5</td>
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<td>Friend: 2.8</td>
<td>Language-independent: 3.7</td>
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<td>Network: 3.0</td>
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<td></td>
<td>Temporal: 4.7</td>
<td>Complete Automation Probability: 36%</td>
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How to detect a disinformation campaign

Web resources
How to detect a disinformation campaign

Resources: browser extensions

Fake News Detector

NewsCracker

Fake video news debunker by InVID

Fake Video Forensics
How to detect a disinformation campaign

Disinformation as a Service

<table>
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<tr>
<th>Negative disinformation</th>
<th>Positive disinformation</th>
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<tr>
<td>Publication of articles in reputable media</td>
<td>Creation of botnets for content propagation</td>
</tr>
<tr>
<td>More posts per minute</td>
<td>Greater scope Available 24 hours</td>
</tr>
<tr>
<td>Creation of social network accounts</td>
<td>Use of accounts with previous history</td>
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<td>Use of accounts with previous history</td>
<td>Attracting followers in social networks</td>
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<tr>
<td>Publication in Social Networks</td>
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<td>Content on Facebook</td>
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<td>Content on LinkedIn</td>
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<td>Dissemination in other media</td>
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How to deal a disinformation campaign

Source: Freepik
Conclusions

The rules of the game have changed, this is the new propaganda war 2.0
Conclusions

Change of mentality
= contrasting information
  + common sense
  + critical thinking
Conclusions

Training and awareness
Conclusions

“A lie repeated (shared) a thousand times becomes truth”

Joseph Göbbels
German Minister of Public Enlightenment and Propaganda during the Third Reich
Thank you!