

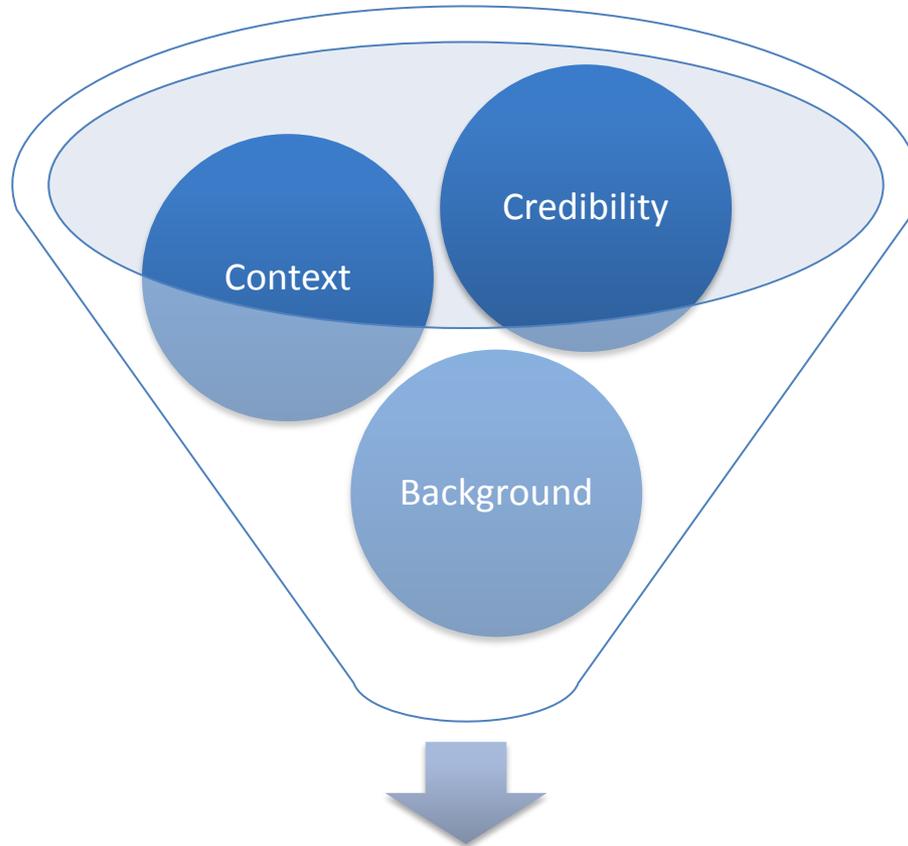
**Awake**

# Automating Social Engineering

Alexandru Catalin Cosoi – Head of Online Threats Lab

Daniel Dichiu – NLPT Researcher

# Social Engineering



The clever manipulation of the natural human tendency to trust.

## Questions that need to be asked

1. What is your name or nickname?
2. What are your interests?
3. Who do you work for?
4. Who are your friends/colleagues?
5. What is your job title?
6. Who is your manager/CEO/director?
7. Who are your family members?
8. Are you married? With whom?
9. Do you have any kids? What are their names?
10. Where do you live? Where were you born?
11. How much do you earn?
12. Where do you stay? How expensive is your house?

# Our online identity



Catalin Cosoi [Add as Friend](#)

#### Contact Information

Facebook [facebook.com/catalin.cosoi](https://facebook.com/catalin.cosoi)

#### Facebook Directory

ABCDEFGHIJKLMNOPQRSTUVWXYZ



**Alexandru Catalin Cosoi**  
Head of Online Threats Lab at BitDefender  
Romania | Information Technology and Services

**Alexandru Catalin Cosoi**

Personal Blog. Insights about my work and other interesting subjects.

Current

Past

Education

Connections

Websites

## How has the threat how is BitDefender

On May 5, 2011, in Cosoi on security, by

I had to answer this question yester

The threat landscape changed in qui  
that it was somehow unexpected is t  
that happen in the last 3 to 6 month  
social networks and social media in  
reach to profit compared to a couple  
requires the creation of a targeted at  
designed malware ingenious intrusic

Another aspect is the increasing am  
tools available on the Internet. Not o  
themselves in social media websites,  
your profile" apps or "my top stalker  
more details about themselves by all  
just extract even more info about th

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Romania - Head of Online Threats Lab at BitDefender

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**Alexandru Catalin Cosoi**. Head of BitDefender Online Threats Lab. Page 3. Contents. • Malware, spam and phishing. • Trending Menaces. – Corporate Data ...



About @CatalinCosoi

466

Tweets

137

Following

190

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10

Listed

90



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# Stats

- 24% of Safego users found something malicious posted on their wall
- 90% of malicious Facebook apps were designed to access profile information
- 20% of Android malware discovered so far was designed for phishing or for immediate profit
- 80% of Android malware was designed to extract information from the device

# Tools

# pipl

# 123 people®



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## Introducing InstantData.

Getting useful data for your email list has never been easier.

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**Age**  
Bar chart showing the distribution of ages in the email list.

**Gender**  
Pie chart showing the distribution of genders (Female and Male).

**Location**  
Map of the United States showing the geographic distribution of the email list.

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# Problem Statement

## Get Ready

Malware that infects computers and steals data or becomes part of a botnet

Spam messages that contain infected attachments

Fake shops and scams which provide the necessary investment for the underground economy

## Get Set

Find people and identify their online identity

Spread spyware that will constantly monitor their activity

## Go

Create unique messages based on the victim's social profile

Convince them to disable the protection if necessary

# Steps of a Targeted Attack



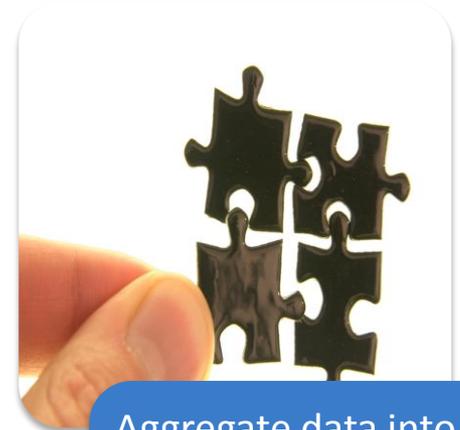
## email address

- Social media accounts
- Complete Name and Nicknames



## LinkedIn & Social Networks

- Gender
- Workplace related info
- List of friends and coworkers
- Field of activity and interests



## Aggregate data into complete social profiles

- Use search engines to complement the information extracted from SNS
- Use NLP techniques to parse and use data

# Google search



www.google.com/#sclient=psy&hl=en&source=hp&q=catalin+cosoi&pbx=1&oq=catalin+cosoi&aq=f&aqi=g2g-v1g-m1&aql=&gs\_sm=e&gs\_upl=206713737

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About 117,000 results (0.26 seconds) Advanced search

Everything  
Images  
Videos  
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More  
Show search tools

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[www.catalincosoi.com/](http://www.catalincosoi.com/) - Cached  
On June 3, 2011, in **Cosoi on security**, by **catalin**. The reason I'm asking this, is because of my post yesterday regarding the phished gMail accounts of different ...  
[Alexandru Catalin Cosoi](http://www.catalincosoi.com/cv/)  
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**BitDefender security blog**. Read daily our antivirus blog posts. Stay up to date with what's happening in the security world.

**Articles by Catalin Cosoi | Network Security Edge**  
[www.networksecurityedge.com/author/104](http://www.networksecurityedge.com/author/104) - Cached  
21 Dec 2009 – **Cyber Threats** | Guest Opinion | **Catalin Cosoi** Wednesday, February 17, 2010. Whenever we enter a new decade, many of us like to take stock ...

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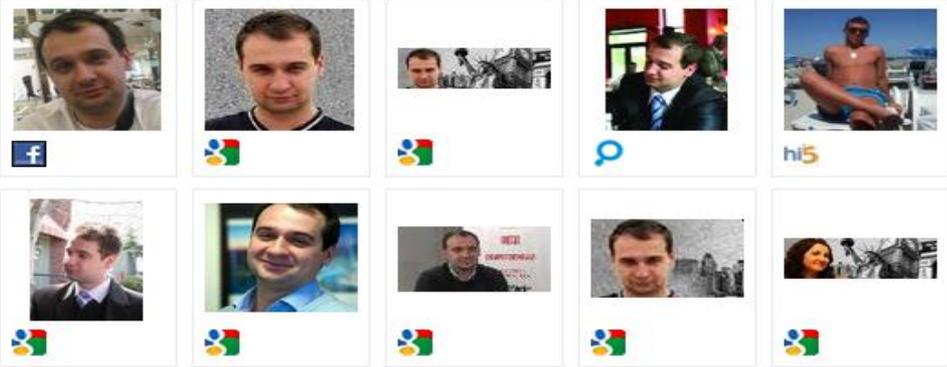
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1 [2](#) [next>>](#)

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www.catalincosoi.com
- [me@catalincosoi.com](mailto:me@catalincosoi.com)  
www.catalincosoi.com
- [carmen.cosoi@nielsen.com](mailto:carmen.cosoi@nielsen.com)  
projects.csail.mit.edu

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### Blogs (10)

Google

- [Let's see if this works - Alexandru Catalin Cosoi](#)  
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- [Interviu Catalin Cosoi, Head of Online Threats Lab la...](#)  
Acum ceva timp, Alex mi-a propus sa fac un interviu. Pentru cei care nu ati auzit de Catalin Cosoi, el este [Head of Online Threats Lab la BitDefender](#), cu alte. - devirusare.com
- [BitDefender - software antivirus - Catalin Cosoi -...](#)  
Interviu cu domnul Catalin Cosoi - [Head of Online Threats Lab in cadrul Bitdefender](#) Romania - amenintari informatice, utilizarea corecta a antivirusului, strategia Bitdefender. - laptopnews.ro
- [VB Seminar – May 2011 - Alexandru Catalin Cosoi](#)  
Alexandru Catalin Cosoi. Personal Blog. Insights about my work and other interesting subjects. Home · You have to try this!!! Getting better and better.... VB Seminar – May 2011. On February 1, 2011, in Cosoi on security, by catalin ... - blog.catalincosoi.com
- [Muffins - Alexandru Catalin Cosoi](#)  
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### Biographies (19)

people

- [Fractal Breakout Indicator - Docstoc – Documents, Templates ...](#)  
Using The Forex Fractal Breakout Custom Indicator™ you can safely double your account balance in 2 weeks See live account results, actual customer results ...
- [Waves of Twitter attacks erode trustworthiness of Tweets | The ...](#)  
Waves of Twitter attacks erode trustworthiness of Tweets. Posted on | September 26, 2009 | 6 comments. How much should you trust Tweets? Much less so, after a swarm of tainted ...
- [Operation Trident: lessons from the takedown of ZeuS cyber robbers ...](#)  
The mercurial Russian virus writer, known as A-Z, creator of the ZeuS banking Trojan, remains elusive –Ā and very active. LastWatchdog introduced the wider public to ...
- [The Internet's 40th anniversary timeline of milestones | The ...](#)  
The Internet's 40th anniversary timeline of milestones. Posted on | September 2, 2009 | 5 comments. The Associated Press and Symantec have each compiled timelines to mark ...

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## Catalin Cosoi, Romania

### Professional & Business

-  [Alexandru Catalin Cosoi](#). Head of Online Threats Lab at BitDefender. Romania...  [www.linkedin.com](http://www.linkedin.com) - Deep Web
-  [Catalin Cosoi, RO](#), private, Security and Investigations...  [www.linkedin.com](http://www.linkedin.com) - Deep Web

### Publications

-  [Systems and methods for generating signatures for electronic communication...](#) [Patent - US Patent & Trademark Office](#) [patft.uspto.gov](http://patft.uspto.gov) - Deep Web

## Results for Catalin Cosoi without Romania

### Personal Profiles

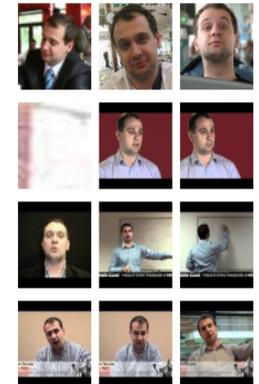
-  [Catalin Cosoi...](#) Personal Web Profile [Facebook](#) [www.facebook.com](http://www.facebook.com)
  -  [Catalin Cosoi, Male, 28...](#) Personal Profile [Bebo](#) [www.bebo.com](http://www.bebo.com) - Deep Web
- Sponsored Tip: [Find hidden profiles and photos across MySpace, Facebook and 40+ networks...](#) [www.spokeo.com](http://www.spokeo.com)

### Photos

-  ... [Photo & Video Sharing - Photobucket](#) [media.photobucket.com](http://media.photobucket.com) - Deep Web
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### Videos

-  [BitDefender Q3 Top Five E-Threats](#), 3 min - Sep 29, 2010 - Uploaded by... [www.youtube.com](http://www.youtube.com) - Deep Web
-  [BitDefender Tips to Stay Safe from Q3 E-Threats](#), 1 min - Sep 29, 2010 - Uploaded by... [www.youtube.com](http://www.youtube.com) - Deep Web
-  [Social media threats and targeted attacks](#), 7 min - Mar 29, 2011 - Uploaded by... [www.youtube.com](http://www.youtube.com) - Deep Web



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## Example 1 - background

### Choose VIC

- Full Name
- Location
- Gender



Classical Nigerian  
Scam

## Example 1 - context

Dear Alexandru Cosoi,

I'm writing to you in a time of sadness and desperation. I'm not sure if you know this, but two decades ago, your cousin, *[insert random Romanian name]* Cosoi moved to Nigeria. Here he managed to start a shipment business which in time managed to become quite successful. He has two sons *[another random Romanian name here]* Cosoi and *[yet another random Romanian name here]* Cosoi, which moved to UK. Your cousin is dying, bla bla bla, so we need to transfer money out of Nigeria to UK, in order to provide a decent living for his kids.

We ask for your help because you are family and we wouldn't bother you if it weren't important, and also, it would be better to keep this between us.

## Example 2 - background



## Example 2 - context

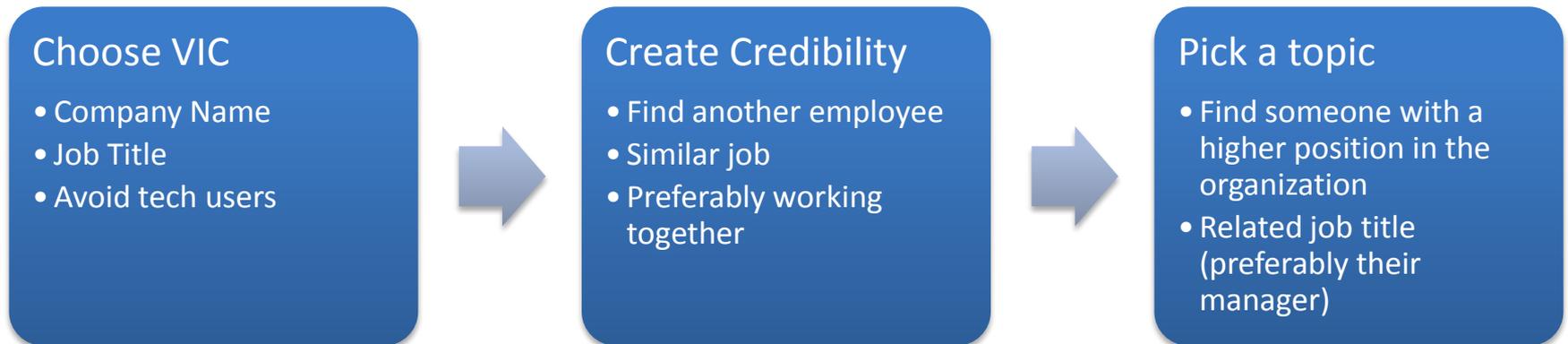
Dear [full name]

Since we've been very pleased with your activity so far, I would like to take this opportunity to thank you for your dedication and involvement.

As the HR team is starting a new project of personal development to boost our employees' career plans, please find attached the PDF file containing what we believe to be a successful career plan for you in this company.

HR Director

# Example 3 - background



## Example 3 - context

Dude!!! (also knowing the gender helps)

Have you seen the news?!

<http://www.getInfected.com>

Is it just me, or [manager name] is leaving us?

I'm very very upset that we have to find out about this from the media and not directly from him/her.

Grrrr!!!

# Experiment

- 1996 randomly selected email addresses
- 100 registered a LinkedIn account (5%)
- 370 registered a Facebook account (18.5%)
- 70 registered a Pulse account (3.5%)
- Nickname or Real Name found for 540 individuals
- A valid photo was found for 427 individuals (21%)
- Gender was found for 540 users and determined for an additional 178



**Experiment**

## Wrapping up

1. Social engineering works.
2. Social engineering can be automated
3. The better your identity is represented online, the higher the chances of becoming a victim
4. We need to understand the addiction to social networks and the fact that users will post information about themselves online, ignoring the consequences.
5. Education can work. It's our duty to educate both users and employees about social engineering and how their own data can turn against them.



**Bitdefender<sup>®</sup>**