

AI-Powered Social Engineering & Misinformation

Franka Ebob Enow Ebai
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About Me

Education:

- BSc in Banking & Finance (2014, Uni Buea, Cameroon)
- BScBA Specialisation in Finance (2019, BFH, Switzerland)
- MSc Business Development (2021, HSLU, Switzerland)

Professional Background:

- Research Associate – FHNW Competence Centre Digital Trust (Since 2023)
- Co-founder – Turacos Switzerland (Since 2022)
- Founder – Ebai Local Guide Consulting (Since 2022)

Some Projects / Research :

- Swiss Africa Cybersecurity Community
- Researching Cultural elements in Cybersecurity (Cameroon & Switzerland)



Franka Ebob Enow Ebai

Agenda

1. AI in Threat Environments

- How AI Fuels Social Engineering
- AI & Social Engineering – Trends

2. Misinformation Campaigns / Fake News

- Case Study: Switzerland & African Countries

3. Detecting AI-generated Content

4. Cultural Vulnerability Factors

AI-Powered Social Engineering

By the end of this session, you should be able to...

- Explain the role of AI in accelerating social engineering attacks
- Describe some cases of AI-powered social engineering attacks
- Illustrate the dangers of misinformation and existing strategies in Switzerland and African regions to combat it
- Explain some cultural factors that make people vulnerable to social engineering attacks

AI in Threat Landscape

The Involvement of AI in the Threat Landscape

Artificial intelligence has become a defining element of the threat landscape. By early 2025, **AI-supported phishing campaigns reportedly represented more than 80 percent of observed social engineering activity worldwide** (Enisa, 2025).

As tools for
attackers

As targets for
exploitation

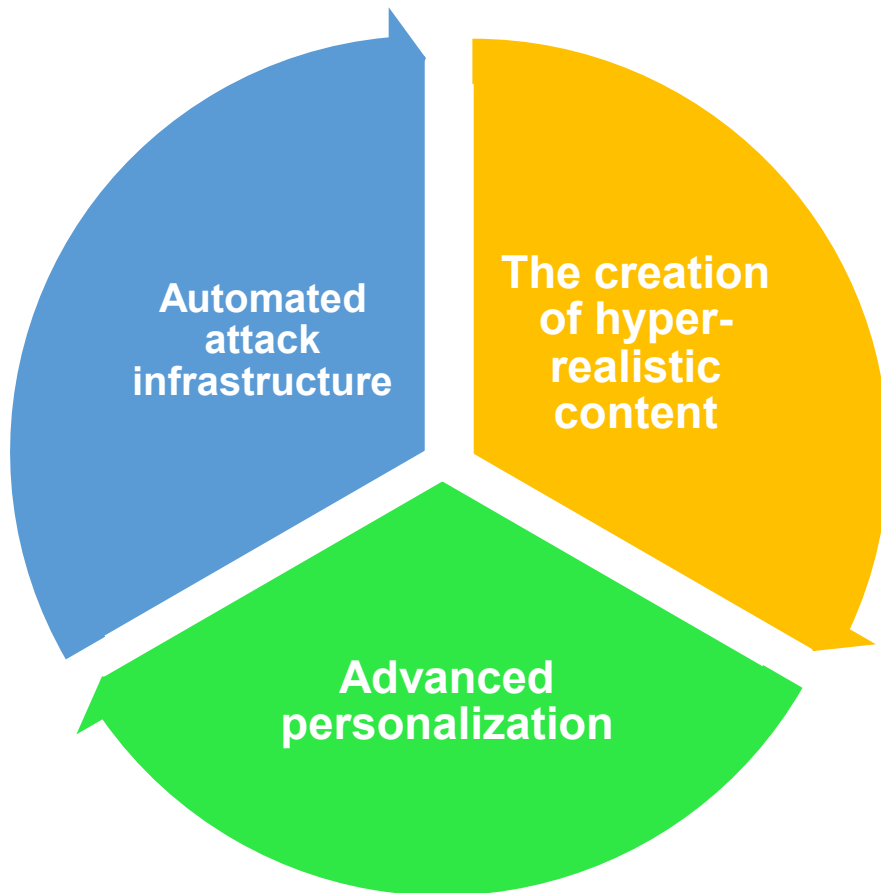
The use of AI as a
lure

The high deployment of AI in social engineering attacks is due to:

- ✓ High availability of AI systems
- ✓ Economic advantages
- ✓ Low entry barriers

How AI Fuels Social Engineering

In the literature, several authors (Kumar, 2025; Schmitt & Flechais, 2024; Alahmed et al., 2024) highlight AI as a perpetuator of social engineering.



These hyper-realistic AI generated news anchors are fooling the internet



The advancement of AI...

- ✓ Enhances believability
- ✓ Gives attackers more power
- ✓ Increases tension

AI & Social Engineering – Trends (1/3)

Emergence of Standalone Malicious AI Systems

Earlier AI Use	Modern Malicious AI
Augment existing operations	Can run attacks autonomously
Human still needed	Less human Involvement
Limited Impact boost	Potentials transformative threat

WormGPT - Hacking AI Tool

Black Hat tool to facilitate cybercriminality

- ✓ Malware and Phishing Attack Creation
- ✓ Business Email Compromise attack

AI & Social Engineering – Trends (2/3)

More Convincing phishing emails due to AI

Phishing emails target roles such as:

- ✓ Engineering (64%),
- ✓ Finance (12%)
- ✓ IT & hr (10%)



Henry Cambell – Resume

Email: henry.cambell@... | Phone: (184) 443-...
GitHub: github.com/... | Portfolio: henrycambell.com/...

PROFESSIONAL SUMMARY

Results-driven DevOps Engineer with experience in cloud infrastructure, CI/CD pipelines, and automation. Strong background in software development and system administration, with a passion for optimizing workflows and improving system reliability. Proven track record of implementing scalable, secure, and high-performance solutions. Previous experience at [redacted], working on infrastructure automation and cloud solutions.

EDUCATION

Bachelor of Science in Computer Science

- Harvard University, Cambridge, MA
- Graduated: May 2021 (GPA: 3.8/4.0)
- Relevant Courses: Cloud Computing, Distributed Systems, Software Engineering, Cybersecurity, Advanced Linux Administration

TECHNICAL SKILLS

- **Cloud Technologies:** AWS, Azure, Google Cloud Platform (GCP)
- **Configuration Management & Automation:** Terraform, Ansible, Puppet, Chef
- **CI/CD & DevOps Tools:** Jenkins, GitHub Actions, GitLab CI/CD, ArgoCD, Spinnaker
- **Containerization & Orchestration:** Docker, Kubernetes, Helm
- **Monitoring & Logging:** Prometheus, Grafana, ELK Stack, Datadog
- **Version Control:** Git, Bitbucket, SVN
- **Scripting & Programming:** Python, Bash, Go, YAML
- **Networking & Security:** VPN, Firewalls, IAM, TLS, SSO

PROFESSIONAL EXPERIENCE

DevOps Engineer

[redacted], Santa Clara, CA | June 2021 – Present

- Designed and implemented cloud-native solutions to optimize infrastructure scalability and reliability.
- Developed Infrastructure as Code (IaC) using Terraform to manage multi-cloud environments efficiently.
- Automated deployment pipelines with Jenkins and GitHub Actions, reducing release times by 40%.
- Managed and optimized Kubernetes clusters for microservices architecture, improving system uptime.
- Enhanced monitoring and observability using Prometheus and Grafana, reducing incident response time.
- Collaborated with development and security teams to enforce DevSecOps best practices.

DevOps Intern

[redacted], Santa Clara, CA | June 2020 – May 2021

- Assisted in automating infrastructure provisioning and CI/CD pipelines.
- Created Python and Bash scripts to streamline deployment processes.
- Configured and managed cloud services across AWS and GCP environments.
- Analyzed system performance metrics to improve cloud resource utilization.

PROJECTS

- **Automated Multi-Cloud Deployment** – Developed Terraform modules for AWS and Azure, reducing manual configurations.
- **Self-Healing Kubernetes Cluster** – Built an auto-scaling Kubernetes cluster with monitoring and auto-recovery features.
- **CI/CD Pipeline for Microservices** – Implemented a fully automated CI/CD pipeline for a microservices-based application using GitHub Actions and Helm.

CERTIFICATIONS

- AWS
- Certified DevOps Engineer – Professional (2023)
- Certified Kubernetes Administrator (CKA) (2022)
- HashiCorp Certified: Terraform Associate (2021)

CV attached to the phishing email.

Source: knowbe4, 2025

- Provider of security awareness training and simulated phishing platform

Reference period: Sept. 2024 – Feb 2025

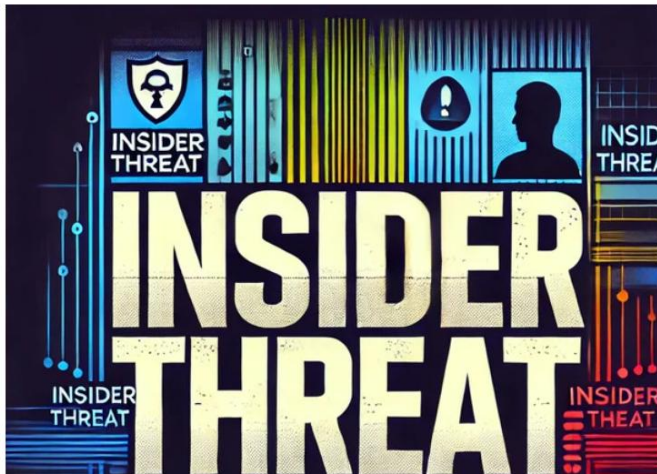
AI & Social Engineering – Trends (2/3)

State-sponsored cyberattackers use AI tools to infiltrate the hiring process

CYBER THREATS & ATTACKS Insider Threat

North Korea using AI Deepfake to conduct espionage via Insider Threats

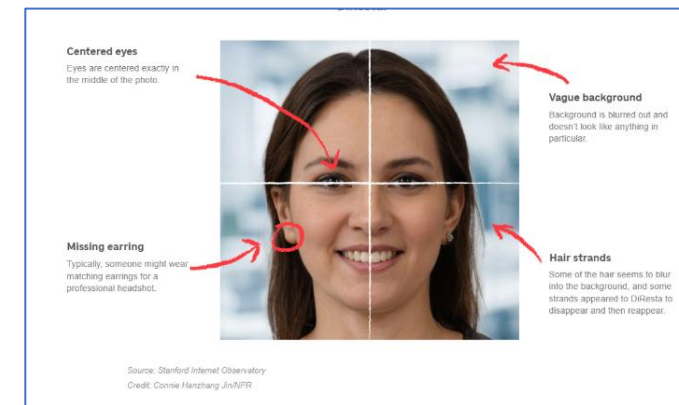
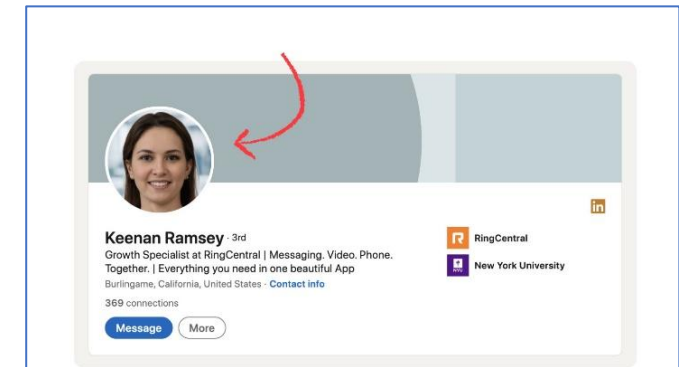
By Naveen Goud November 5, 2025 | Join Cybersecurity Insiders



Famous Chollima (linked to North Korea)

- ✓ Generate fake LinkedIn profiles and submit fake resumes.
- ✓ Offer fake job recruitment opportunities to lure developers
- ✓ Main motivation: financial motivation and sensitive information
- ✓ Such attacks have been linked to over 100 companies in the US, Saudi Arabia, France, and Ukraine

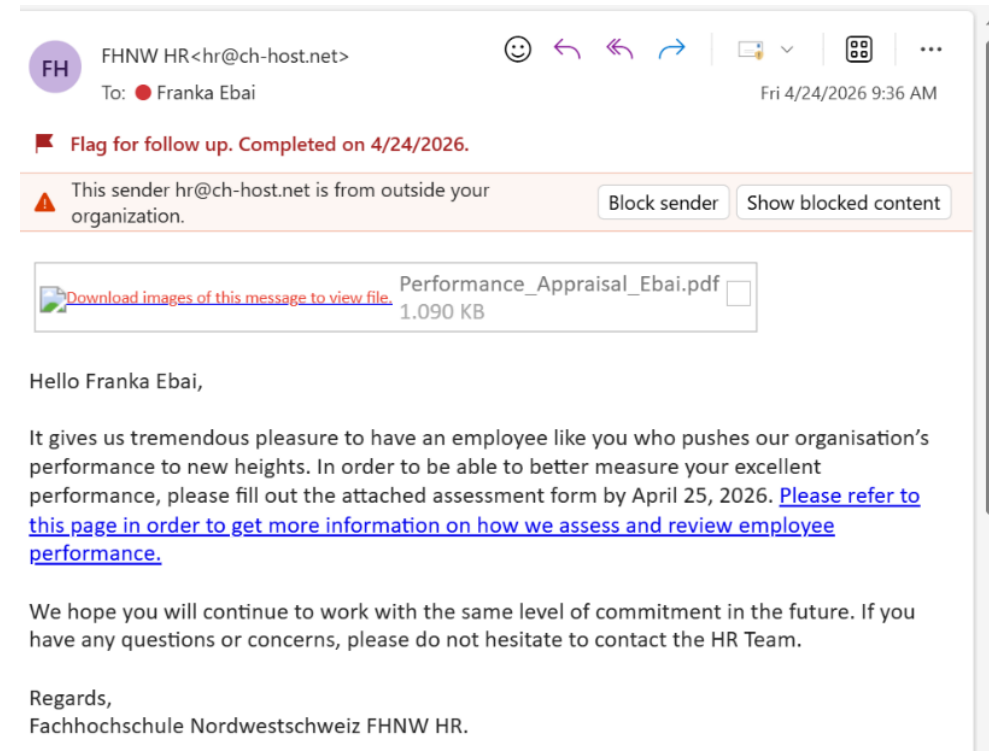
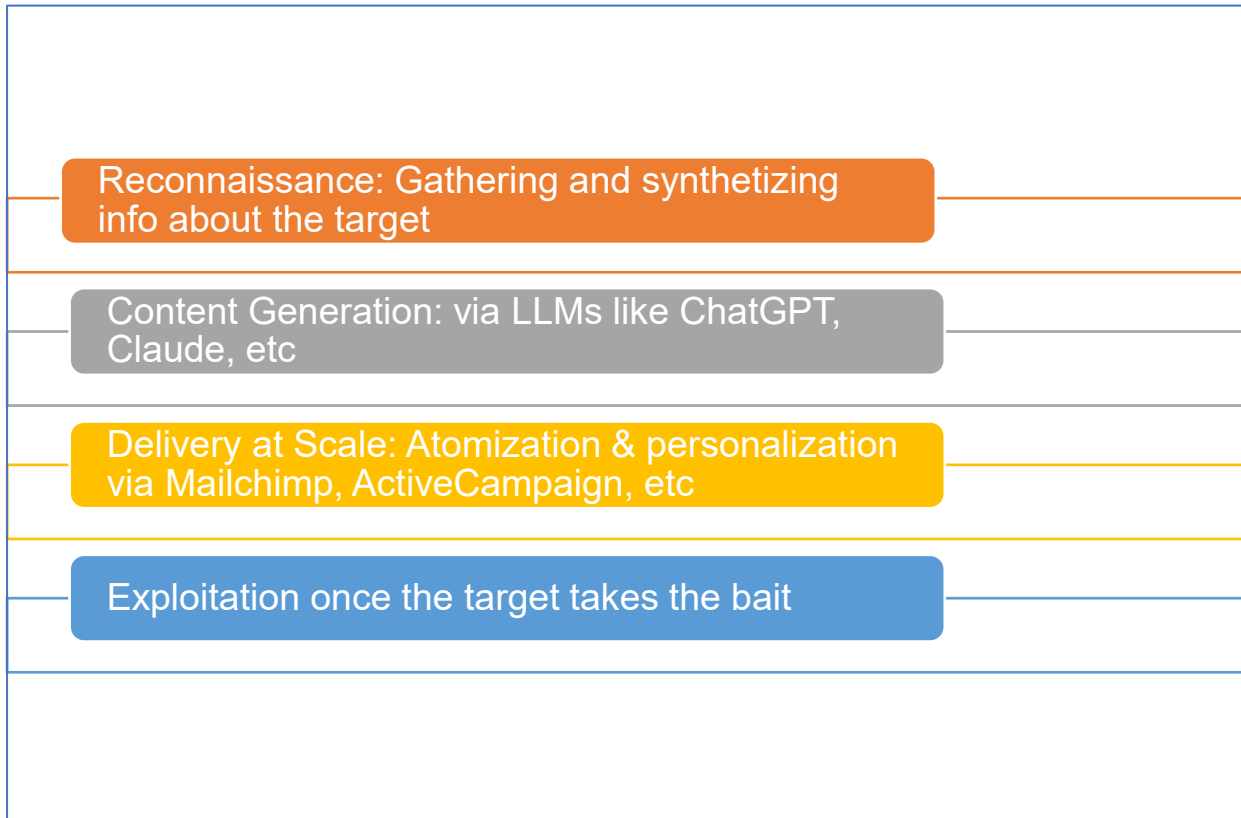
Source: <https://www.cybersecurity-insiders.com/north-korea-using-ai-deepfake-to-conduct-espionage-via-insider-threats/>



Source: **Stanford Internet Observatory**

Mechanism behind AI Phishing attacks

Why do some Phishing emails feel familiar?



AI & Social Engineering – Trends (3/3)

Deepfake is also accelerating phishing & online impersonification

The case of a Hong Kong employee scammed via a video call.

British engineering giant Arup revealed as \$25 million deepfake scam victim

By Kathleen Magramo, CNN
3 min read · Updated 4:53 AM EDT, Fri May 17, 2024



A deep fake video of Sundararaman Ramamurthy, Bombay Stock Exchange CEO, giving investors advice



Source: CNN, 2024

[Arup revealed as victim of \\$25 million deepfake scam involving Hong Kong employee | CNN Business](#)

AI & Social Engineering – Question

What percentage chance do people have of correctly distinguishing between AI-generated and real faces?

AI & Social Engineering – Question

What percentage chance do people have of correctly distinguishing between AI-generated and real faces?

According to a 2021 study, people have only **a 50% chance of** correctly distinguishing between an AI-generated face and a real face



- ✓ **People's confidence in detecting AI generated images do not match their abilities**

AI & Social Engineering – Fun Exercise

Which of the photos are AI-generated?



AI & Social Engineering – Fun Exercise

Which of the photos are AI-generated?



Answer: 2, 3, 5, 8, 9, 11

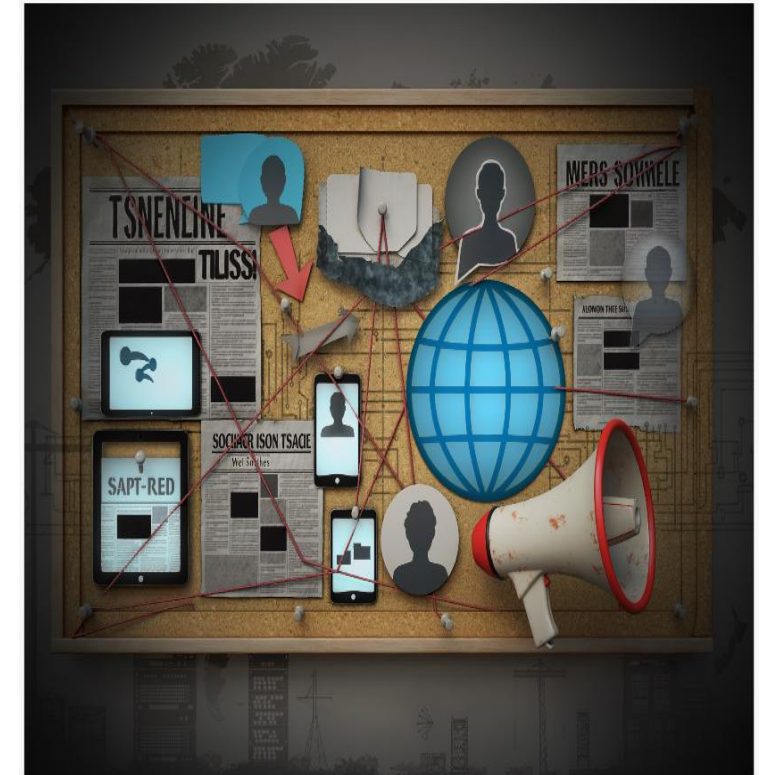
Misinformation Campaigns / Fake News

Misinformation & Disinformation

Misinformation: “false, inaccurate information or wrong facts”
American Psychological Information [API], n. d).

Disinformation: when the author of the information deliberately
intends to mislead by misstating facts (API, n. d).

Good to know: Fake news has been highlighted as a threat
since **1925** by Edward Mckenon



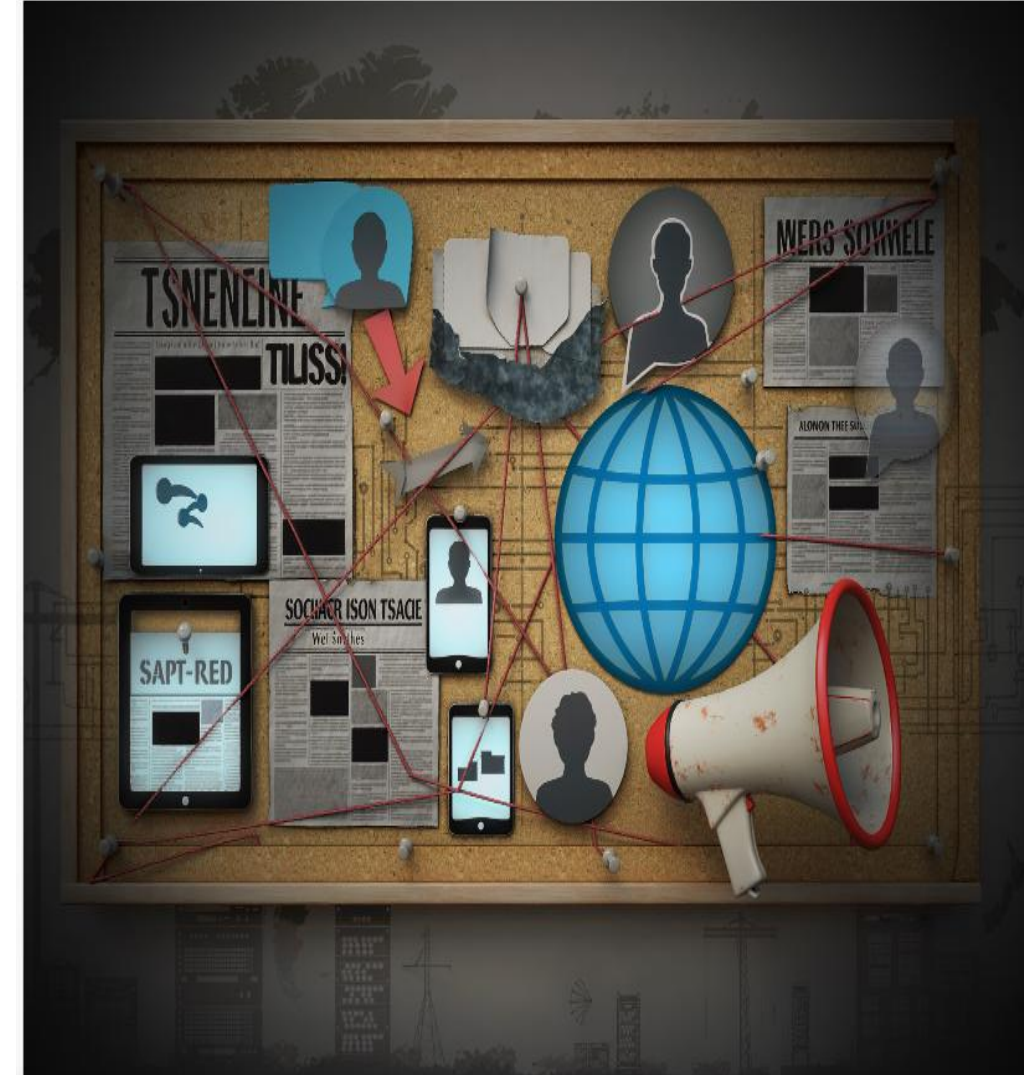
Misinformation & Disinformation

The Era of Fake News:

- ✓ People's behavioral change in how they access information.
- ✓ Social media is an important source of information for Gen Z.
- ✓ Quick production & dissemination of information due to AI.

Dangers of Misinformation:

- ✓ societal divisions; diminishing trust in democratic institutions and processes; jeopardizes public health initiatives, etc

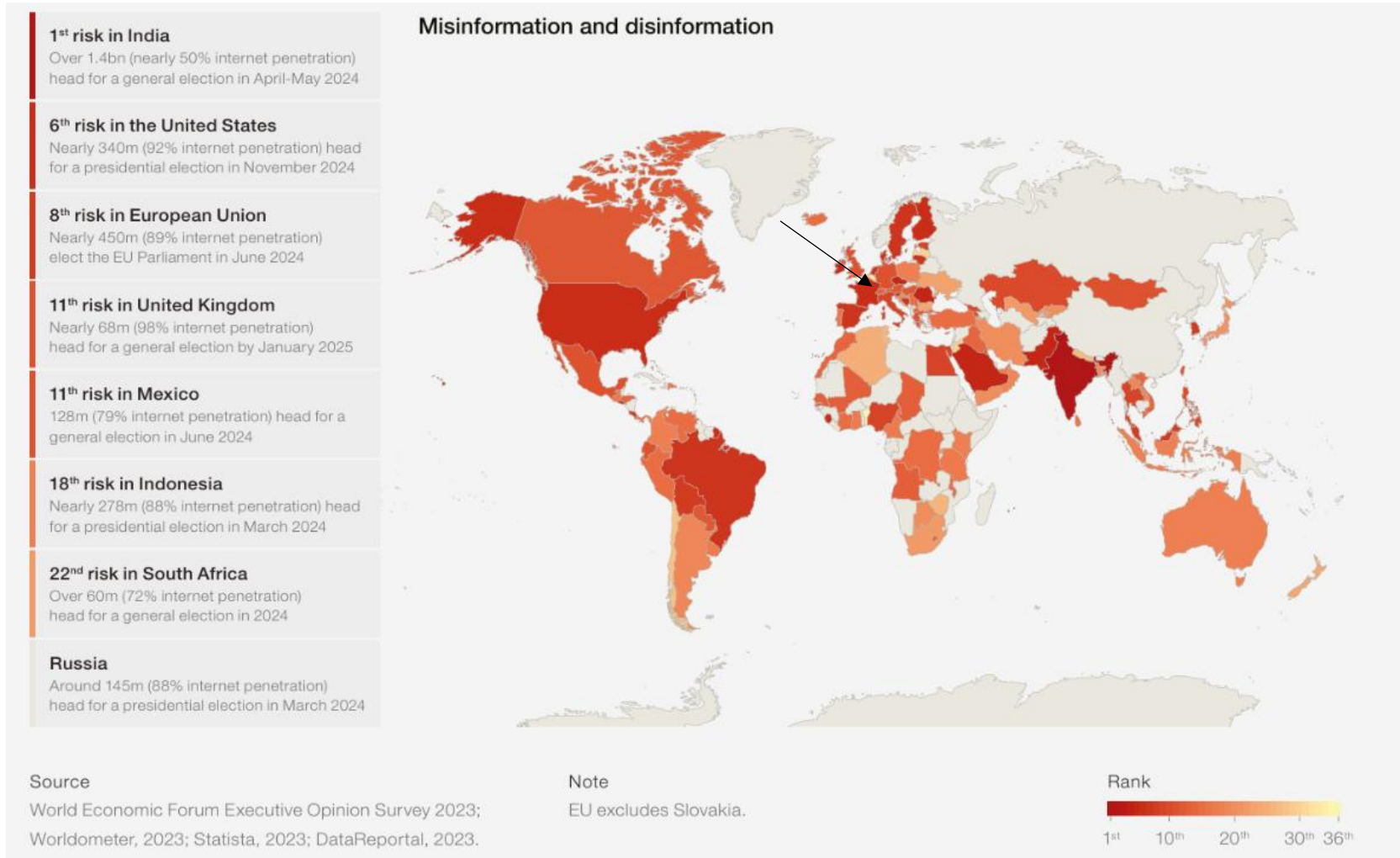


Misinformation in Numbers

Question:

In which country is misinformation spread the most?

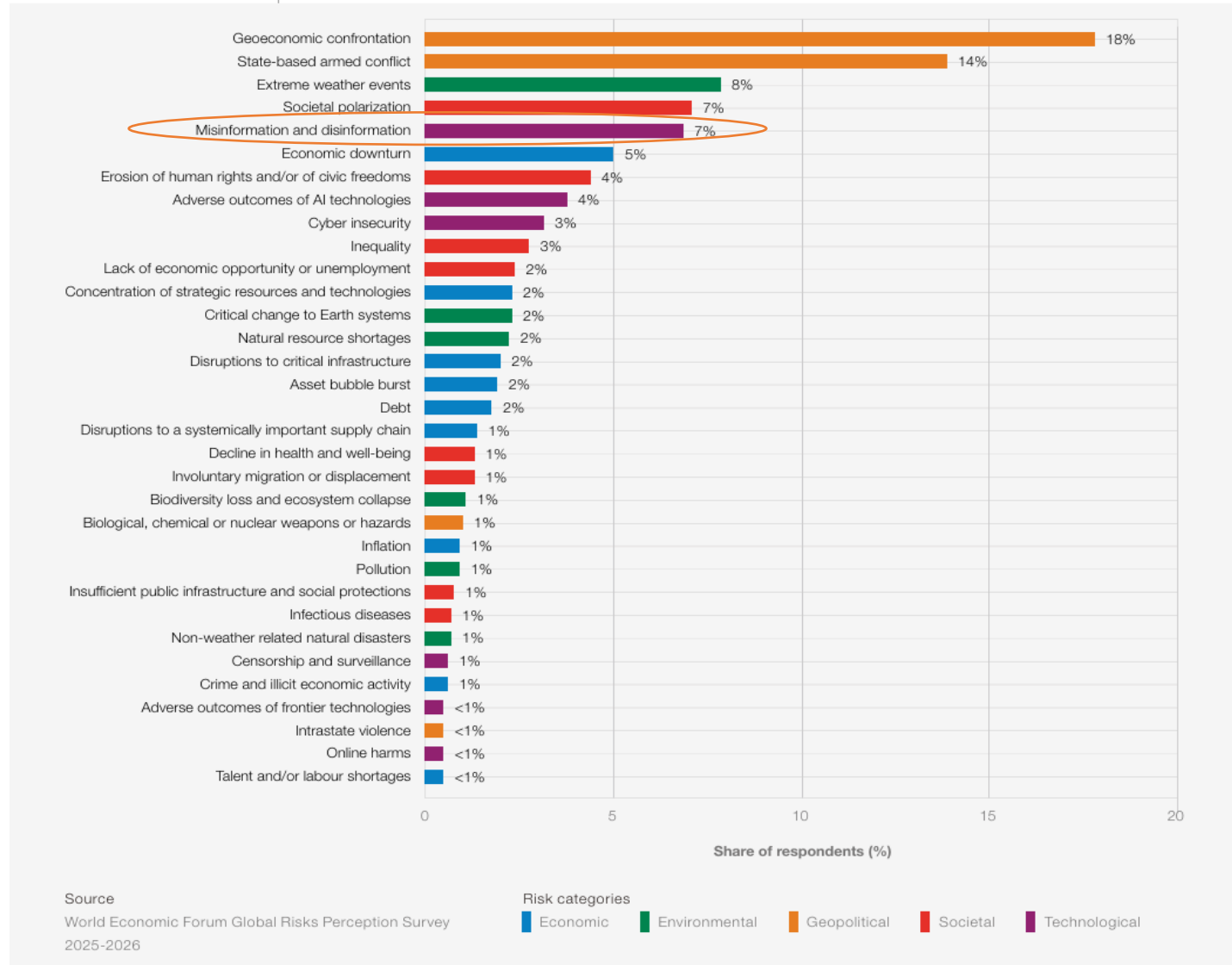
Misinformation in Numbers



Misinformation in CH= 18th risk

Source: World Economic Forum, 2024

"Please select one risk that you believe is most likely to present a material crisis on a global scale in 2026."

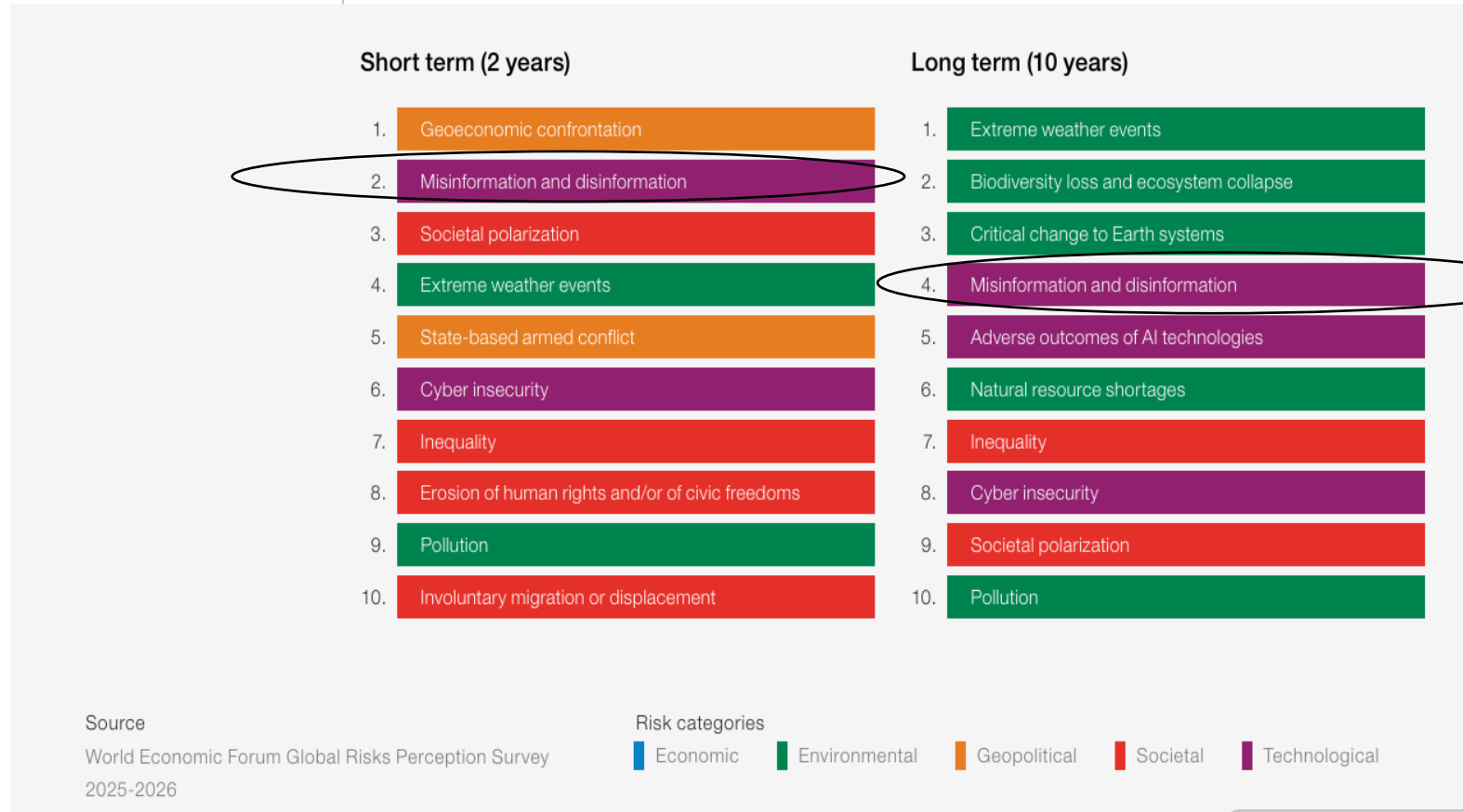


- ✓ **Respondents:** over 11'000 business leaders in 116 economies.
- ✓ **Age group:** 30years – 70+
- ✓ Risk in 2026, 2028, and 2036

Source: World Economic Forum, 2026

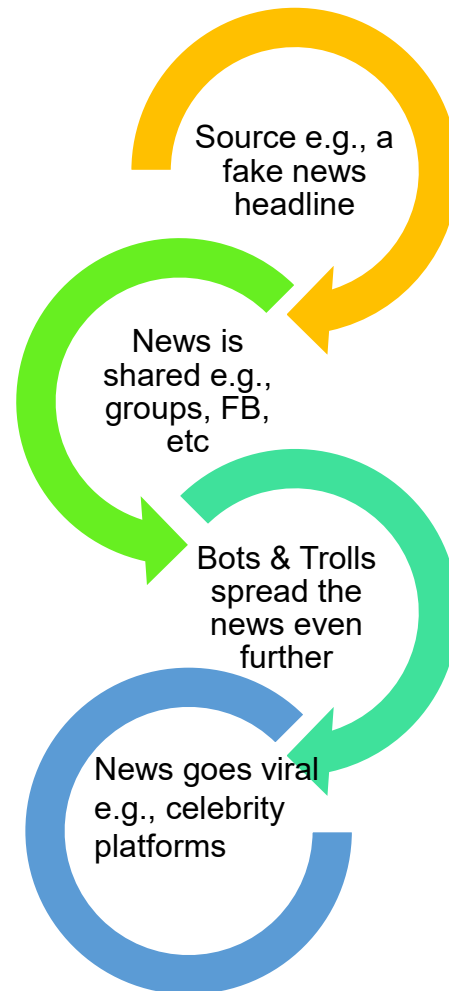
FIGURE 3 Global risks ranked by severity, short term (2 years) and long term (10 years)

"Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period."



Source: World Economic Forum, 2026

How Misinformation is Spread



Motivations Behind Misinformation

**Political
Affiliation**

**Psychological
factors, e.g., social
norms, religious, etc**

**Confirmation and
disconfirmation
bias**

**A cover-up, e.g.,
political reasons**

Financial gains

Misinformation in Switzerland

Little Test

- How many of you have ever used AI to produce content, for example, for social media?
- How many of you have already encountered fake news on social media?
 - Did you recognize that it was fake news?
- Do you think you have the skills to differentiate between fake and real news?



Misinformation in Switzerland

AI is contributing to fake news in the country.

- 2 in 5 people use AI to create content, texts, and images.
- About 4 in 5 15 – 24-year-olds have used generative AI to create content.
- People's encounter with fake news on social media keeps going up:
 - 2021: 45%; 2023: 51%; 2025: 58%
- News verification:
 - 38% say they don't check because they already know it is false
 - 15% admit not having the skill to verify the truthfulness of the information.

Source: [Federal Statistical Office, 2025](#)



Cases of Misinformation in Switzerland



- ✓ Such info has been linked with Russian propaganda, an attempt to influence Swiss public opinion.

Question

Is misinformation a punishable offence in Switzerland?

Misinformation in the African Region

Misinformation in the African Region

Misinformation is a challenge, particularly in the health sector and during elections, and it worsens political crises, for example, the Anglophone crisis in Cameroon.

What may fuel disinformation (findings from Kenya, Cameroon, Ethiopia, Uganda, and Nigeria):

- Low media literacy levels
- Increased use of digital technologies
- Divisive/fractious politics
- Crisis
- Restriction on freedom of speech

What other factors can you think of?

Common Misinformation & Disinformation Channels:

- Facebook
- TikTok
- WhatsApp groups

Some misinformation instigators:

- ✓ Paid influencers,
- ✓ Political agents
- ✓ Foreign actors

Cases of Misinformation in African Countries

Cameroon: News seen on Facebook: Appointing Frack Biya as vice president

Plateau Journal's Post



Plateau Journal
April 6 at 1:40 PM · 🌐

NEWS FLASH.

Cameroon President Biya Appoints Son As Vice President..

Cameroon's President, Paul Biya, has appointed his son, Franck Emmanuel Biya, as Vice President of the Republic and Head of the Armed Forces, in a move that tightens his grip on both the country's political and military institutions amid rising unrest.

The appointment was announced in an official decree dated April 4, 2026, which also names Franck Biya as Minister Delegate at the Ministry of Defence, effectively placing him at the centre of Cameroon's security framework.

The decree reads in part: "Mr Franck Emmanuel Biya is appointed Vice President of the Republic of Cameroon," and further states, "Mr Franck Emmanuel Biya is appointed Head of the Armed Forces."

Expanding his role, the decree notes: "The Vice President of the Republic, Mr Franck Emmanuel BIYA, is also appointed Minister Delegate at the Ministry of Defence of the Republic of Cameroon."



Liberia: AI video of Liberia president's reaction to Trump

News | Donald Trump

'Such good English': Liberians confused, angry at Trump comments to Boakai

US president appeared surprised by his counterpart's 'beautiful English', despite it being Liberia's national language.

🔖 Save < Share

🔍 Add Al Jazeera on Google



Liberia's President Joseph Boakai [File:Olamikan Gbemiga/AP]

Source: www.aljazeera.com

Namibia: AI video of the president promoting an investment scheme

TRT AFRIKA



Namibian President Netumbo
worried over her AI-generated video

Measures to Combat Misinformation – Switzerland

1. Situation monitoring and early detection

- ✓ Federal bodies (**Security Core Group and Security Committee of the Federal Council**) assess the overall security situation, coordinate cross-departmental responses, and propose actions at the federal level
- ✓ Federal Intelligence Service (FIS) monitors foreign influence activities related to Swiss authority.
- ✓ Swiss military monitors threats to members of the military before and during service
- ✓ Collaboration with universities, e.g., the threat potential posed by AI-generated images and the detection of influence bubbles, and the plausibility of trends in social networks.

2. Resilience through Awareness, Education, and Media Literacy

- ✓ Awareness campaigns for federal staff at home and abroad.
- ✓ Swiss media associations educating young people.
 - ✓ Portals like ch.ch provide useful tools as well

3. Communication

- ✓ Debunking Misinformation
- ✓ Educating the public
 - ✓ E.g., crisis-proof Bundesrat appn ([A new Bundesrat app to protect against disinformation - News – SRF](#))

4. Regulations

- ✓ A law for fair and more transparent communication platforms and search engines.
- ✓ In line with the EU's Digital Services Act

5. Fact-checking websites

- ✓ Health fact-check: <https://www.re-check.ch/fr/>
- ✓ Swiss Info
- ✓ <https://belux.edmo.eu/fact-checking/our-approach/>
- ✓ <https://www.srf.ch/news/srf-faktenchecks>

Fact-checking – Switzerland

AI-Generated Content Detection

Upload images, videos, or audio for frame-by-frame AI-Generated and Deepfake detection with probability scores.

Upload



Szent Korona Rádió @szkorcom

A magyar sífutó, Kónya Ádám kifigurázta az ukrán sportolók viselkedését azzal, hogy egy tapaszt megasztott a kezére a következő felirattal: We're all fed up with ^{the} Magyarok! Elegünk van belőletek.

Olympia Fake News
KI-Fälschungen unterwandern die olympische Bühne

SWI swissinfo.ch

The Swiss voice in the world since 1935

GEOPOLITICS DEMOCRACY SCIENCE SWISS IDENTITY ECONOMY SWISS ABROAD

News >
Foreign Affairs >

Fedpol investigates fake government energy poster campaign



Source: <https://www.srf.ch/news/srf-faktenchecks>

Measures to Combat Misinformation – African Region

Cameroon: Emphasis on fact-checking websites

- ✓ Stopintox (<https://stopintox.cm/>)
- ✓ Defyhatenow (<https://defyhatenow.org/cameroon/>):
#thinkb4uclick
- ✓ Stop Bla Bla Cam (<https://www.stopblablacam.com/>):
Promoting factual journalism

Namibia

- ✓ Namibia Factcheck: <https://namibiafactcheck.org.na/about/>
- ✓ Africa Check: Focused on Nigeria, South Africa, Kenya, and Senegal: <https://africacheck.org/>



Are these sites a political tool...?



Detecting AI-Generated Content – Some Existing Tools

Existing tools for detecting AI-generated content are not 100% robust!

For checking content & :

- GPTZero
- Originality AI
- Copyleaks

For verifying images & Videos

- Truth Scan
- Authentiq Scan (Apple App) → also verifies text



How Accurate are Existing Tools

Results from GPT-Zero

Uber's **Unfair Advantage** is:

A massive global network of drivers and riders, powered by data and strong network effects that competitors struggle to replicate.

What makes it "unfair"?

- 1. Network Effects (the biggest one)**
 - More drivers → faster pickups
 - More riders → more income for drivers
 - This loop makes Uber stronger over time and **hard to compete with**
- 2. Scale & Brand Recognition**
 - Operates in hundreds of cities worldwide
 - The name "Uber" is almost synonymous with ride-hailing

Basic Scan
Give feedback

Share Export

GPTZero AI Detection Model 4.4b

human

We are moderately confident this text is entirely human

Chance this entire text is...

AI 35% Mixed 0% Human 65%

View AI Sentences AI Words

Guidance for Teachers and reviewers

Sentences that are likely AI-generated.

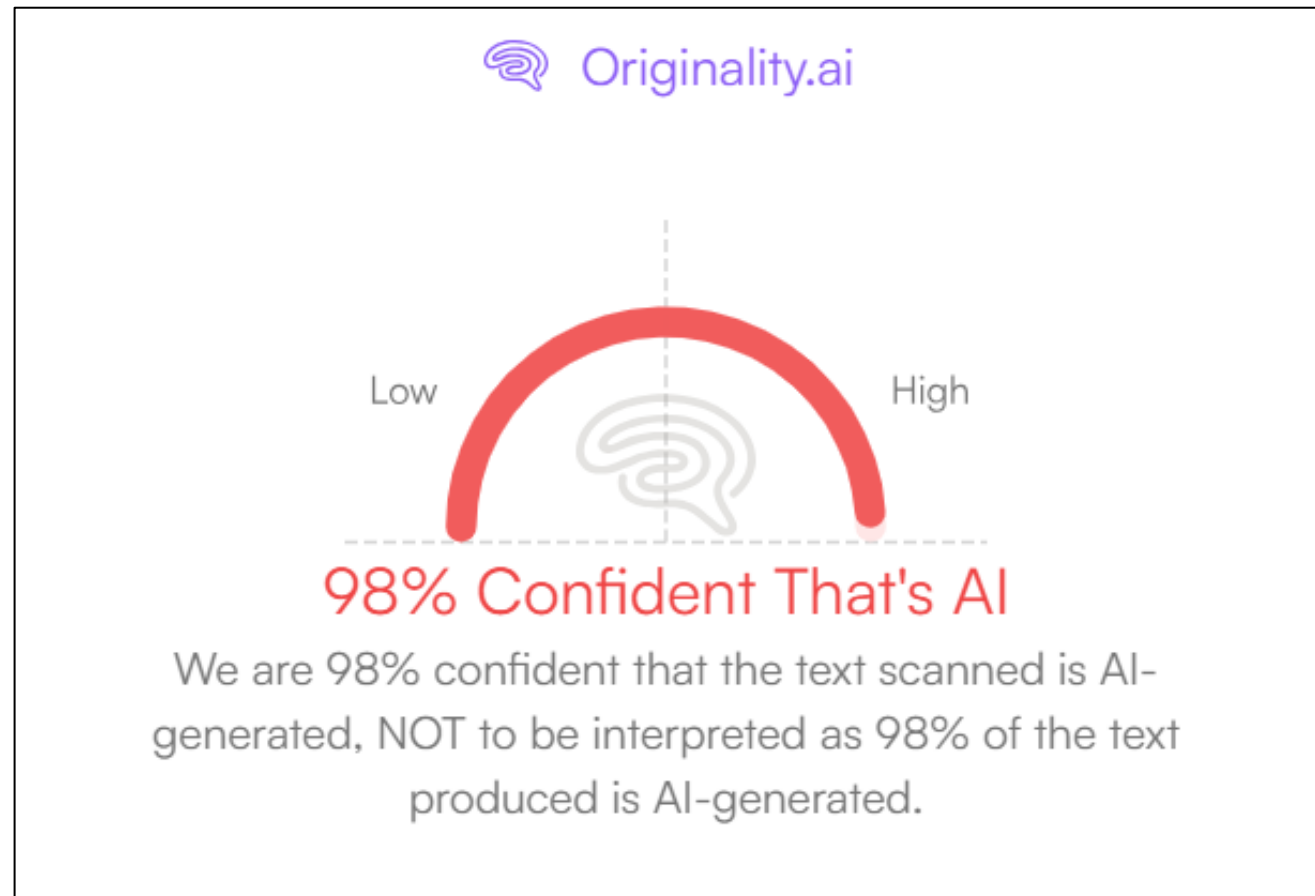
Text changed Scan to update results

490 characters 78 words

Scan →

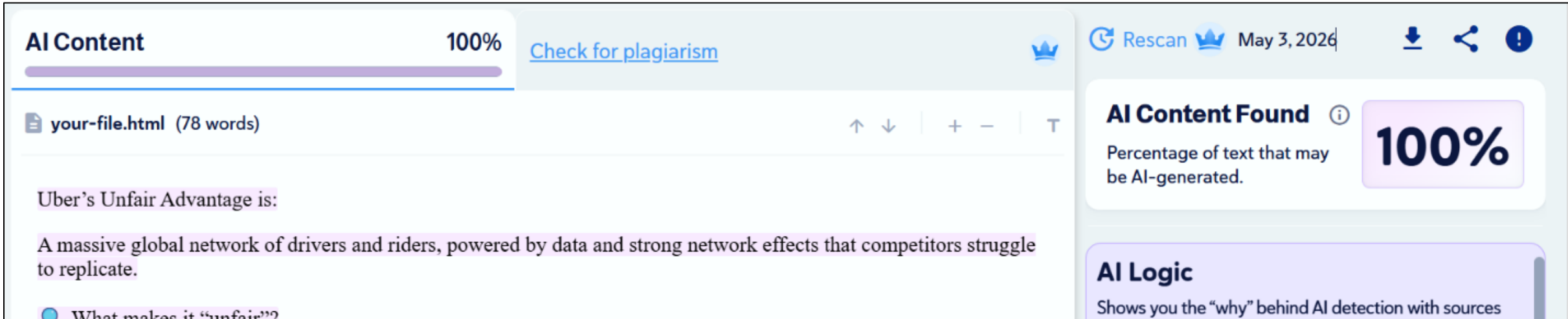
How Accurate are Existing Tools

Results from Originality AI



How Accurate are Existing Tools

Results from Copyleaks



The screenshot displays the Copyleaks AI Content Detector interface. At the top left, a progress bar indicates 'AI Content' at 100%. A 'Check for plagiarism' link is visible. The main area shows a document titled 'your-file.html (78 words)' with the text: 'Uber's Unfair Advantage is: A massive global network of drivers and riders, powered by data and strong network effects that competitors struggle to replicate.' A right-hand panel shows 'AI Content Found' at 100%, with a subtext: 'Percentage of text that may be AI-generated.' Below this, an 'AI Logic' section is partially visible, stating 'Shows you the "why" behind AI detection with sources'.

Summary:

1) Copyleaks (2) Originality AI (3) GPTZero

- Results matches that of Chaka's (2023)
- ✓ GPTZero; OpenAI Text Classifier; Writer.com's AI Content Detector; Copyleaks AI Content Detector; & Giant Language Model Test.

Cultural Vulnerability Factors

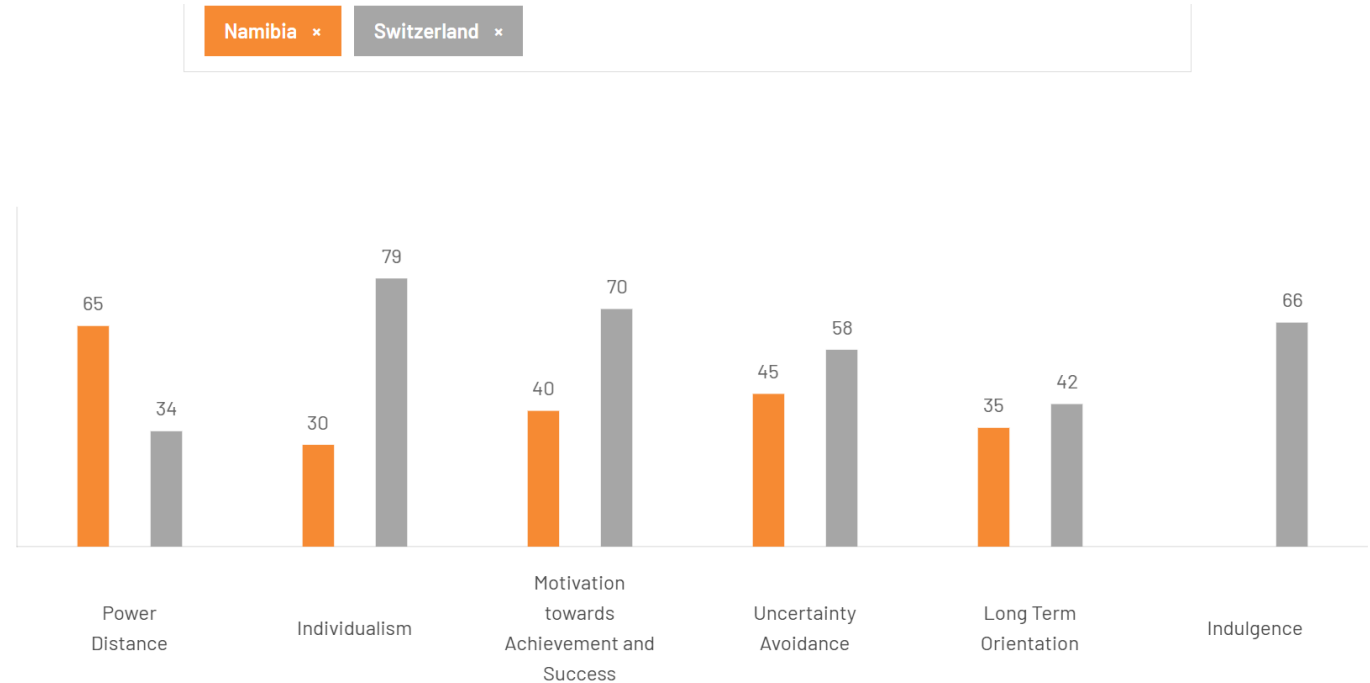
What Makes People Susceptible to Social Engineering?

Individualism vs. Collectivism

- ✓ Privacy
- ✓ Sharing of info
- ✓ Religious norms

Fear of Authority / Power Distance

Trusting attitude



Source: Ebai et al., 2025; Crossler et al., 2019; Crespo, 2021; Halevi et al., 2016

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Journal Article

- Reijo Savolainen. (2022). What drives people to prefer health-related misinformation? The viewpoint of motivated reasoning. *Information Research*, 27(2). <https://doi.org/10.47989/irpaper951>

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