



Personally Identifiable Behavior: Hidden Threats to Privacy

“The Value of PII will decrease”
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AGENDA

1. Introduction to PIB
2. A new subtype of PII?
3. Phases of PIB
4. PIB & Digital Footprinting
5. PIB in the world of OSINT
6. PIB Exploitation
7. Activity: Guess which image is AI-generated
8. Conclusion & QnA

Introduction to PIB

Difference between behavior & Personally Identifiable Behavior (PIB)

What is Behavior? An action, activity, or process which can be observed and measured. Often, these actions, activities, and processes are initiated in response to stimuli which are either internal or external.

What is Personally Identifiable Behavior (PIB)? Type of behavior that is used to identify individuals. This behavior includes analysis of patterns of online browsing, usage of biometrics, and similar digital footprints of an individual.





A new subset of PII?

Personally Identifiable Information (PII):

- Passports & IDs
- Driver's License
- Full Name
- Email Addresses
- IP Addresses
- Software Identifiers
- Hardware Identifiers

Personally identifiable Behavior (PIB):

- Social Media Activity
- Browsing Behavior
- Purchase Behavior
- Movement Patterns
- Political Engagements
- Commuting Patterns
- Travel Patterns

Phases of PIB



From the production to the usage phase

- Production Phase
- Collection Phase
- Usage Phase

Production Phase:

Unlike Personally Identifiable Information (PII), we create our own patterns.

Usage Phase:

- Provide the promised “Tailored Experience”
- Commercial & Marketing Purposes.
- OSINT & Forensics

Collection Phase:

- Cookies from websites shared with 3rd party companies.
- Eye Iris & facial scans in social media
- Search / Browsing history in social media and websites.



Digital Footprinting

01

A digital footprint, sometimes called a “digital shadow,” is the unique trail of data that a person or business creates while using the internet.

02

Digital Footprinting is not PIB

Digital footprinting on its own is Personally Identifiable Information (PII). But, when a pattern is formed, it becomes Personally Identifiable Behavior (PIB)

PIB in the world of OSINT

- Personally identifiable Behavior plays a major role in OSINT.
- **Behavioral Analysis:** Using in-house, cutting-edge psychological research and operational experience to better understand criminal behavior and assist in solving cases.



OSINT

Open-source intelligence (OSINT) is the process of gathering and analyzing publicly available information to assess threats, make decisions or answer specific questions.



Trace Labs

Trace Labs is a nonprofit organization whose mission is to accelerate the family reunification of missing persons while training members in the tradecraft of open-source intelligence (OSINT).

PIB Usage

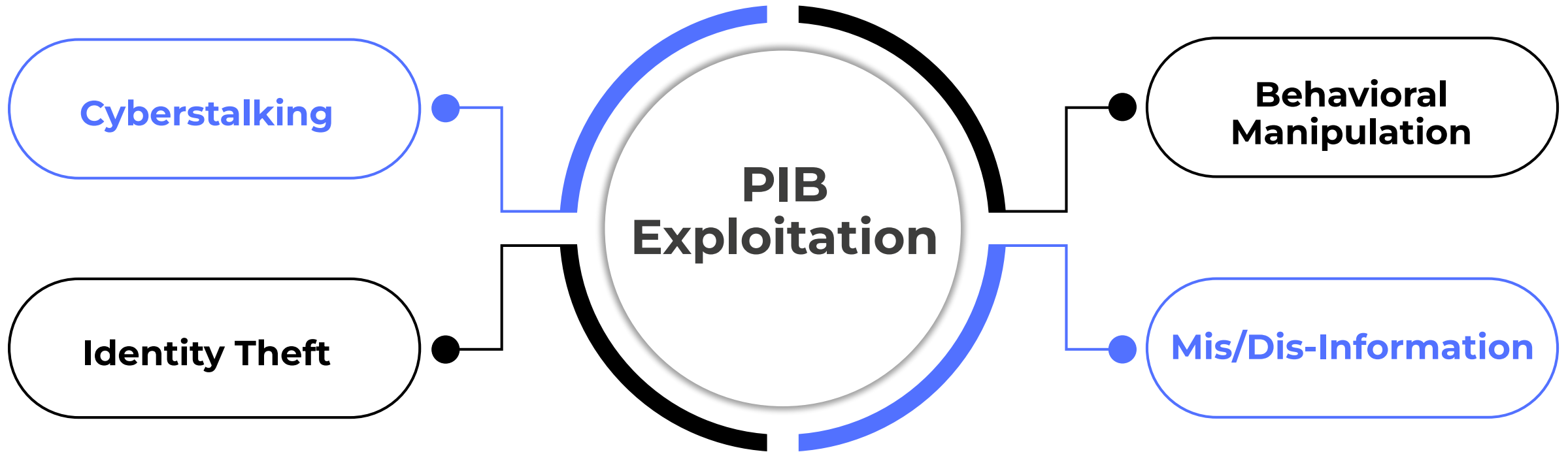
- Social media analysis: Examining posting habits, locations tagged, interests, and social connections.
- Digital footprint mapping: Tracing online activities across platforms to establish patterns.
- Linguistic analysis: Studying writing styles, vocabulary choices, and common phrases used.
- Temporal patterns: Identifying regular schedules or routines from timestamped data.
- Geolocation: Inferring frequented locations from geotagged posts or check-ins.
- Purchase histories: Analyzing public records of transactions or online reviews.



Information used to:

- Verify identities
- Locate individuals
- Predict future behavior
- Identify potential security risks
- Build comprehensive profiles

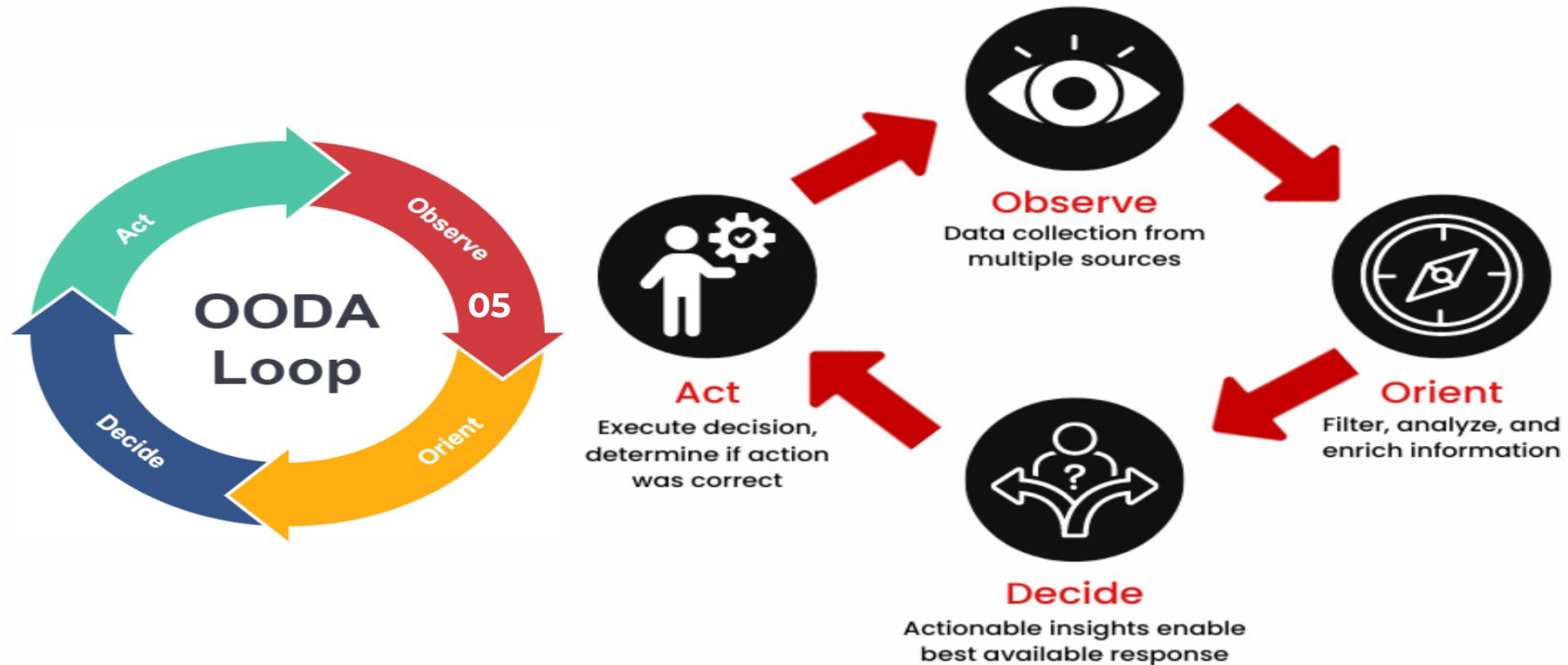
Personally Identifiable Behavior (PIB) Exploitation



OODA Loop

Decision-Making Model made by U.S AirForce

FOUR-STEP APPROACH TO DECISION-MAKING

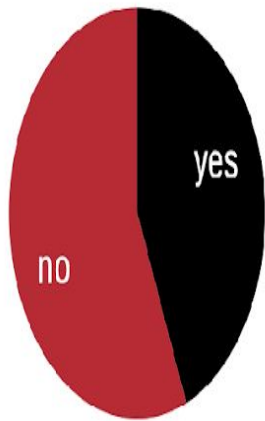


Preliminary Findings

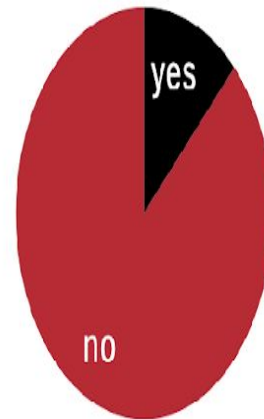
Data collected at The University of Tampa

January 2024 – April 2024

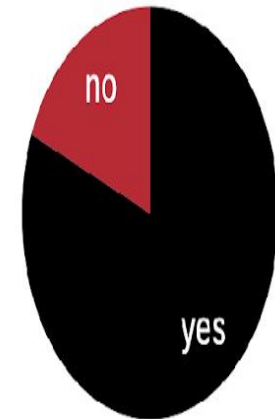
Have you ever felt pressured/manipulated by online platforms to share more personal information than you're comfortable with?



Do you believe that social media platforms prioritize user privacy over their own commercial interests?



Have you ever considered deactivating or deleting your social media accounts due to privacy concerns?



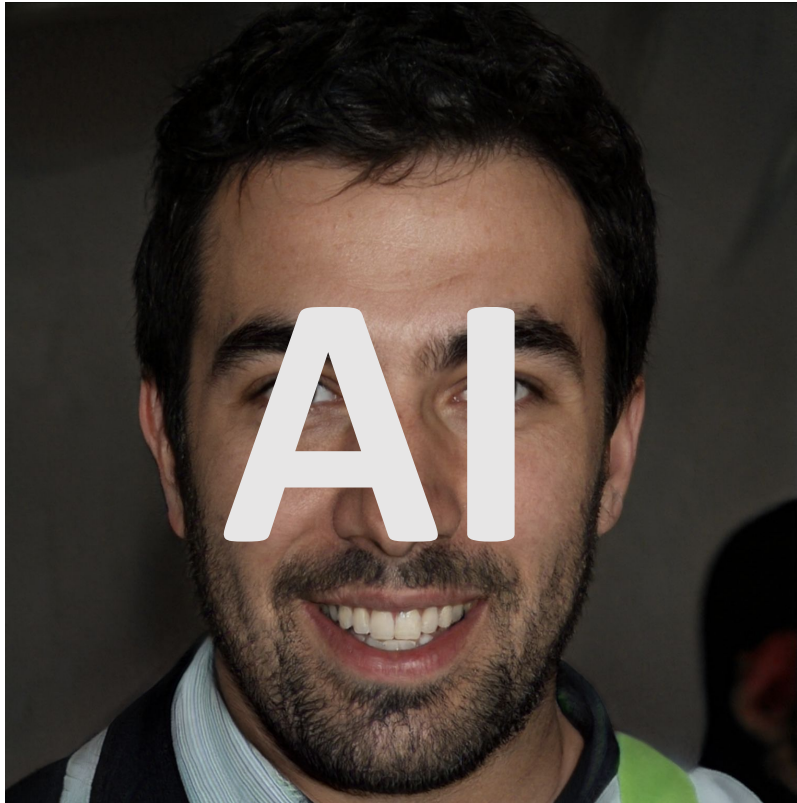


Activity: Guess which image is AI-Generated.



Guess which image is AI-Generated

Choose one of the following



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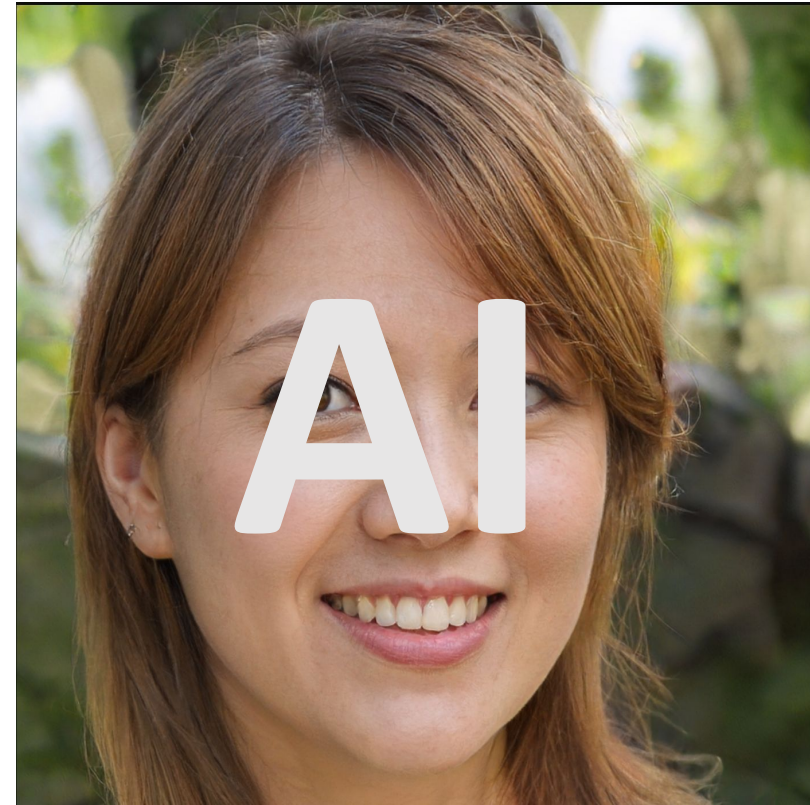
Guess which image is AI-Generated

Choose one of the following



Guess which image is AI-Generated

Choose one of the following



A woman with blonde hair, wearing a grey blazer over a white shirt, is sitting at a desk in an office. She is looking at a laptop screen and has her hand to her face in a thoughtful pose. The background shows a window with a view of a city skyline. The image is partially overlaid by a blue and black graphic design.

*Thanks for
listening
Questions..?*

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