



# DEEPFAKE-ENABLED INFILTRATION:

The Threat of Synthetic Identities  
in Corporate Environments

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# Introduction

## Work Experience

- Qualus: Director of Business Intelligence
- Wave Analytica: Founder
- CCRI: Adjunct Professor

## Education

- Marymount: DSc, Cybersecurity (2028)
- URI: MS, Data Science
- SNHU: MBA
- RISD: BFA, Architecture

Joseph Lozada



# Research Problem



Exploration of  
Deepfake Technology



Current Threat  
Landscape



Recommendations



Advanced Persistent  
Threats (APT)

**NLST**

Current Risk  
Management  
Framework

# Exploration of Deepfakes

A type of visual or audio media that has been generated using AI to appear real.

# Exploration of Deepfakes

## Example: Will Smith Eating Spaghetti



**2023**



**2025**

# Exploration of Deepfakes

Voice  
Replication

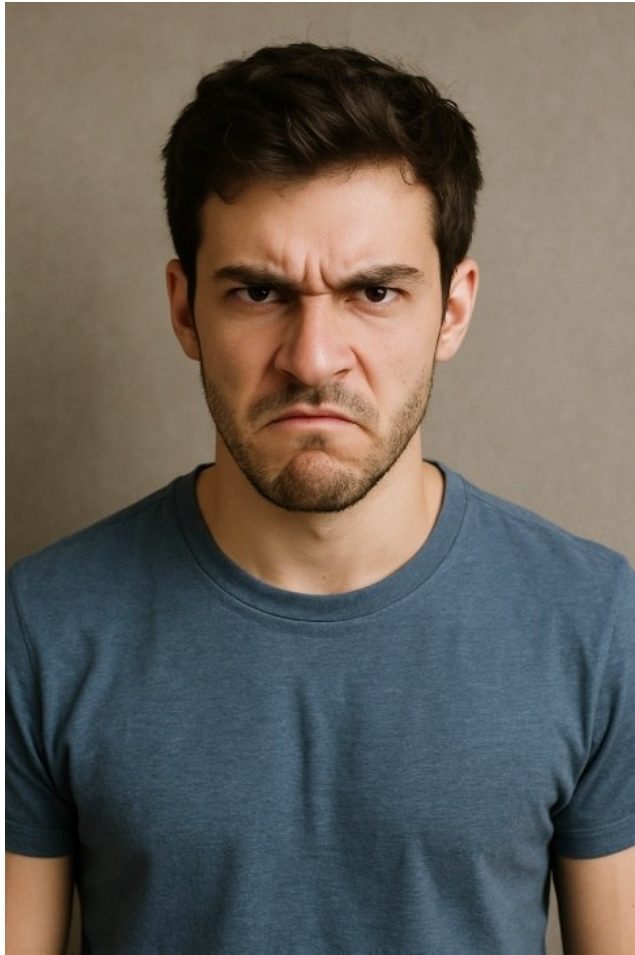


Automatic  
Translation



# Exploration of Deepfakes

Original Image/Video



Expression Alteration

Gender Swapping

Age Alteration

Identity Swapping

Deepfake

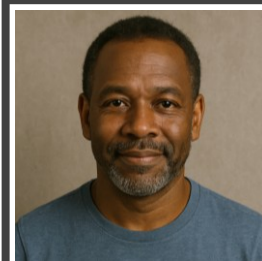
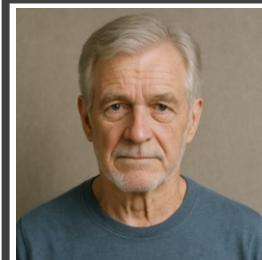
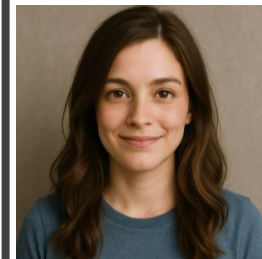


Image  
Manipulation

Malicious Use

# Financial Crimes

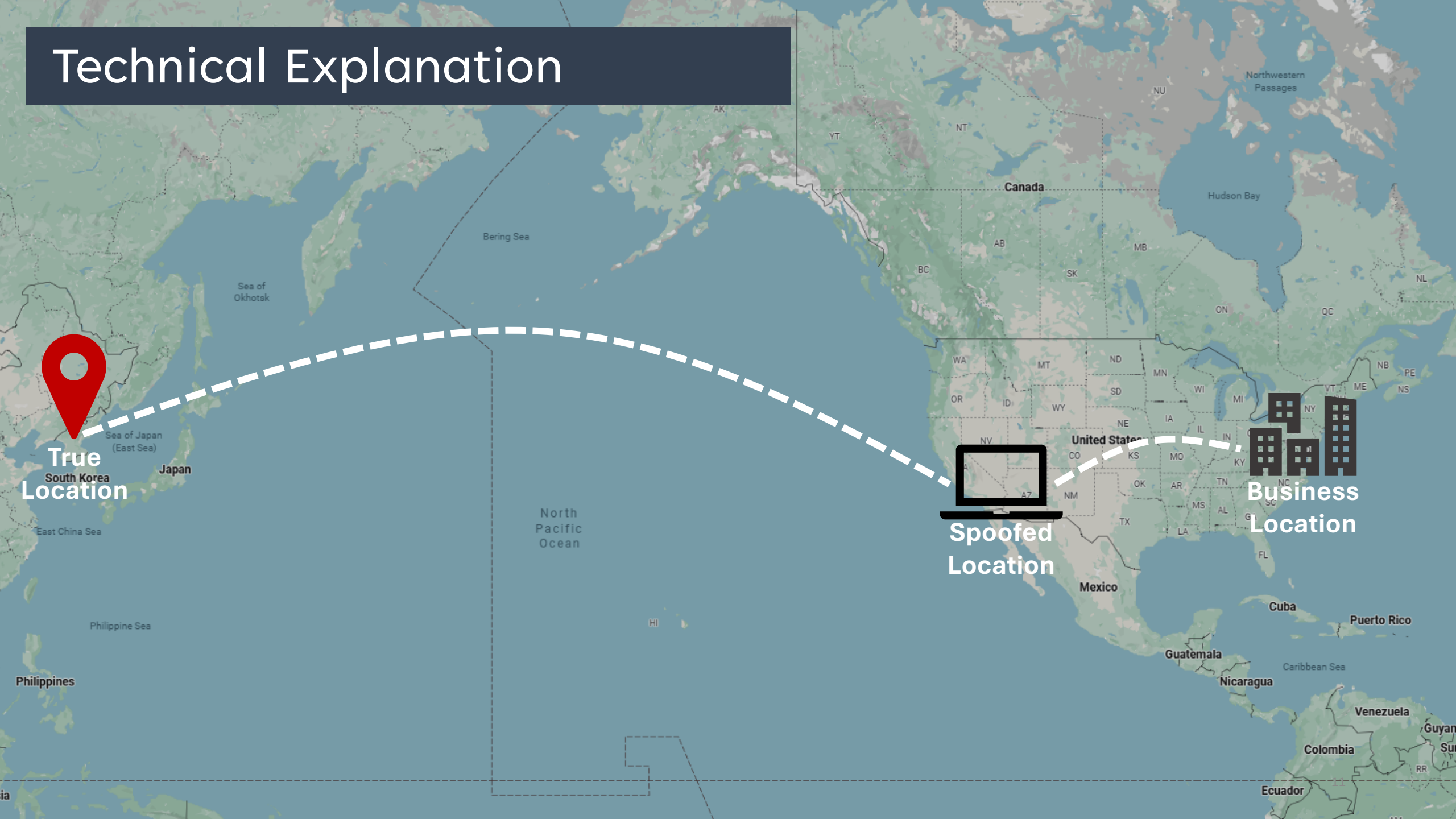
# Intellectual Property (IP) Theft

# Advanced Persistent Threats



APT: An adversary who creates a higher level of threat to an organization due to its access to more sophisticated tools, technology, and techniques.

# Technical Explanation



**True Location**  
South Korea

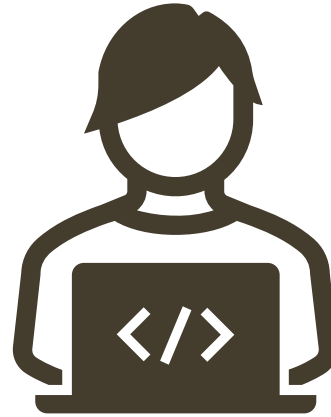
**Spoofed Location**

**Business Location**

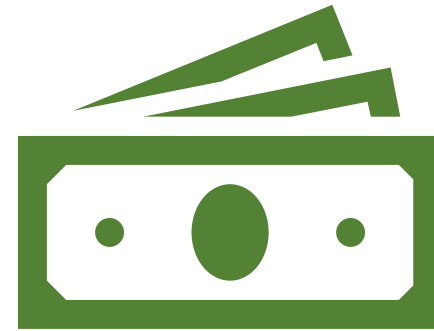
# Motive & Impact



Malware

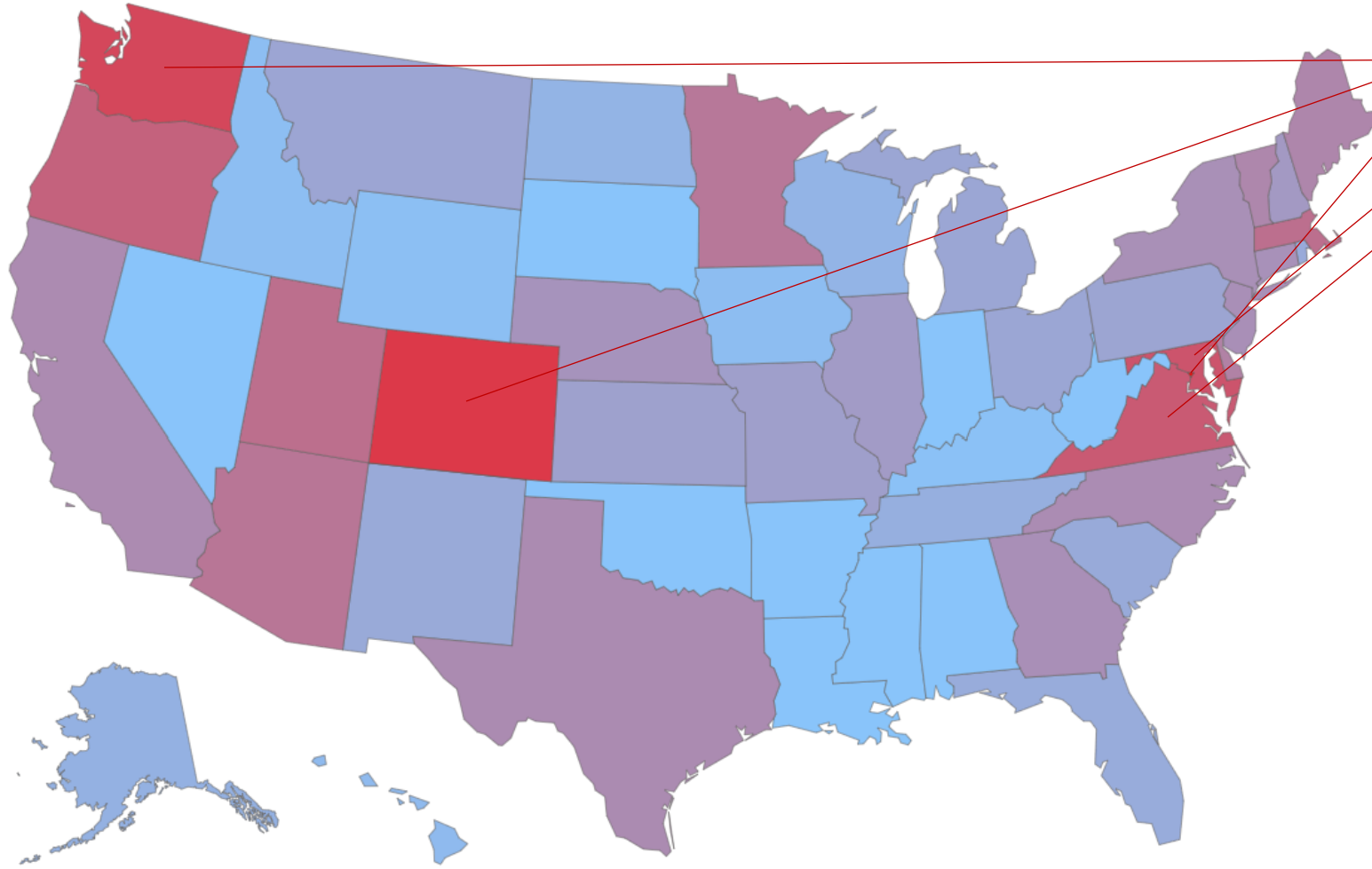


Steal IP



Funnel Money

# Deepfake Infiltration Risk Map



## Top 5 States by Risk

State	% Fully-Remote	% Info, Finance, Gov	Risk Score
District of Columbia	0.23	0.76	0.1774
Colorado	0.16	0.25	0.0397
Washington	0.15	0.26	0.0373
Maryland	0.15	0.24	0.0349
Virginia	0.14	0.24	0.0340
Oregon	0.14	0.23	0.0325
Utah	0.12	0.25	0.0302
Massachusetts	0.13	0.23	0.0302
Arizona	0.14	0.21	0.0290
Minnesota	0.12	0.23	0.0286
Delaware	0.10	0.27	0.0268
Maine	0.12	0.22	0.0261
Vermont	0.12	0.22	0.0260
California	0.11	0.23	0.0253
Texas	0.11	0.24	0.0252
North Carolina	0.10	0.24	0.0250
Georgia	0.11	0.22	0.0244
New Jersey	0.11	0.22	0.0244
New York	0.09	0.28	0.0244
Connecticut	0.11	0.23	0.0241
Nebraska	0.09	0.27	0.0237
New Hampshire	0.12	0.19	0.0227
Illinois	0.10	0.23	0.0223
Missouri	0.09	0.23	0.0215
Kansas	0.09	0.25	0.0213
Pennsylvania	0.11	0.19	0.0206
Montana	0.09	0.23	0.0205
Michigan	0.10	0.20	0.0204
Ohio	0.09	0.22	0.0204
New Mexico	0.07	0.27	0.0197

# Current Framework

The logo for the NIST Risk Management Framework is contained within a light gray circle. It features the acronym 'NIST' in a large, bold, black, sans-serif font. Below 'NIST', the words 'Risk', 'Management', and 'Framework' are stacked vertically in a smaller, black, sans-serif font.

**NIST**

Risk

Management

Framework

- Assign risk a designation to all organizational positions
- Screen individuals prior to granting access to systems.
- Processes for personnel termination and/or transfer.

# Current Framework

**NIST**  
Special  
Publication  
800-53

- Least Privilege
- Literacy Training and Awareness
- Performing Audits
- Continuous Monitoring

# Additional Guidance



## **Additional Recommendations:**

- Behavioral Analytics
- Review of Social Media Activity

## Technical Efforts



- Facebook Deepfake Detection Challenge

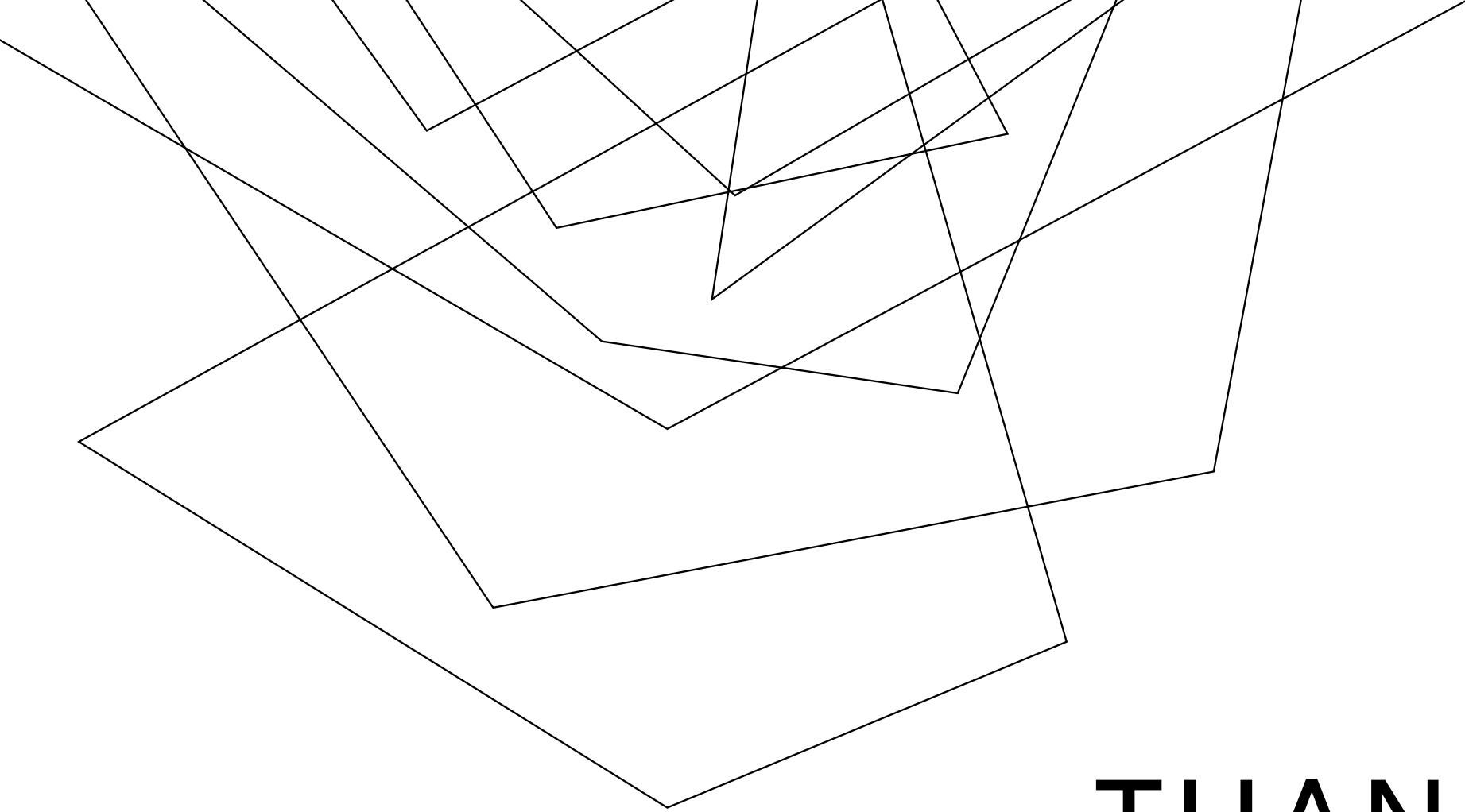


- NIST Open Media Forensics Challenge

# Recommendations

- Limit Fully-Remote Employment
- Incorporate Insider Threat Software
- Check Social Media
- Record and Analyze Remote Interviews with AI

Proactiveness  
is Key



**THANK YOU**