# FISSEA 34th Annual Conference: Refining Cybersecurity Culture: WIIFM\*

May 14-15, 2024 Rockville, MD



# Federal Information Security Educators (FISSEA)

## 34th Annual FISSEA Conference

"Refining Cybersecurity Culture: WIIFM"

May 15, 2024

9:00am - 3:00pm ET



## Please Note...

This webinar and the engagement tools will be recorded.

An archive will be available on the event website.



## Conference Welcome



Brooke Crisp FISSEA Co-Chair



Frauke Steinmeier FISSEA Co-Chair



## **Get Involved**



Subscribe to the FISSEA Mailing List FISSEAUpdates@list.nist.gov\_



Volunteer for the Planning Committee

https://www.nist.gov/itl/applied-cybersecurity/fissea/meet-fissea-planning-committee



Serve on the Contest or Award Committees for 2025 Email <u>fissea@list.nist.gov</u>



Submit a presentation proposal for a future FISSEA Conference or FISSEA Forum

https://www.surveymonkey.com/r/fisseacallforpresentations



#### **PANEL**

#### CISA's Federal Cyber Defense Skilling Academy



Marian Merritt

Deputy Director of NICE

National Institute of Standards and Technology



Sharon McPherson
Senior Cybersecurity Specialist for
Policy Training & Awareness
Department of Veterans Affairs



Maureen Premo
Cyber Defense Education and Training (CDET)
Cybersecurity and Infrastructure Security Agency



# FEDERAL RESKILLING AND UPSKLLING PANEL

**Sharon F. McPherson** 

Sr Cybersecurity Specialist for Policy, Training & Awareness

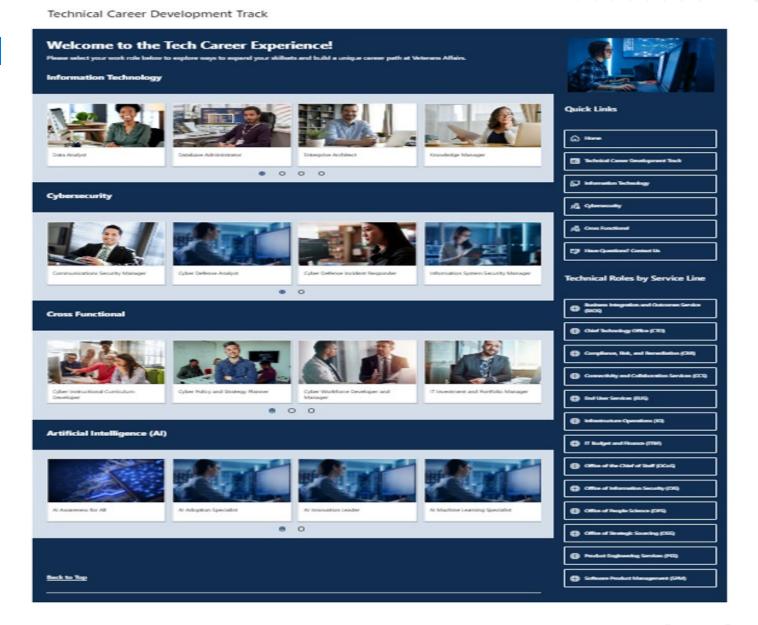
Office of Information and Technology

FISSEA May 2024

FOR INTERNAL USE ONLY



# Career Development Portal(CDP) -Technical Track



#### **Career Development Portal - TSS Work Role**

#### **Technical Support Specialist Role** The Technical Support Specialists provides technical support to customers who need assistance utilizing client-level herdware and software in accordance with established or approved organizational process components such as the Master Incident Management Plan, when applicable. The resources on this page will assist you to learn the details about the Technical Support Specialist role. The five categories below are intended to provide the information you will need to determine if this role is one you have interest in pursuing and outline what is necessary for success when performing this role. **About My Role** Learn about the Technical Support Specialist role. Skills Based Profile Find details on the tasks, knowledge, and skills expected in the Technical Support

#### Spotlight Videos

View videos that explore the Technical Support Specialist role in depth and learn

#### Qualification Indicators

Review the details outlined on this matrix to determine which level of the Technical Support Specialist role is a potential match



Quick Links

- (A) Home
- Technical Carner Development Took
- Sy Mont by Sale
- E Demonstrate My Sidls
- S marry san
- Sape My Corner
- @ Expand My Harbons
- [5] Have Questional Contact UK

#### **Demonstrate My Skills** Assess your current skills.

#### Assess Your Skills

Assess your skills to determine your strengths and areas for development related to the Sechnical Support Specialist role.

#### **Build My Skills**

Access information about multiple methods of training and working with your leader to plan your development on these pages.

#### Curated Curriculum

role can explore available options.

#### On-The-Job Trainings (OJT)

Employees seeking training tailored to this An explanation of QUI, how to select resources, and how to work with your leadership to create a development plan.

#### Just in Time Trainings (JIT)

Access these short videos to quickly work on

#### Shape My Career

Learn about industry certifications, OfFs tuition reimbursement program, and view similar roles.

#### Industry Certifications

View a list of certifications that may help you advence in your role.

#### Federal Tuition Programs

Explore a collection of current Federal Tuition Reimbursement and Loan Forgiveness Programs that are open to VA employees in

#### Discover Similar Roles

If you are looking to explore alternate career pethweys, stert with this tool.

#### **Expand My Horizons**

Explore temporary/project opportunities, current open roles, and get a feel for the demand for this role.

#### Temporary Project Opportunities

Explore short-term positions and projectbased opportunities that would allow you to utilize your skilbets.

#### Federal Rotational Cyber Workforce Program

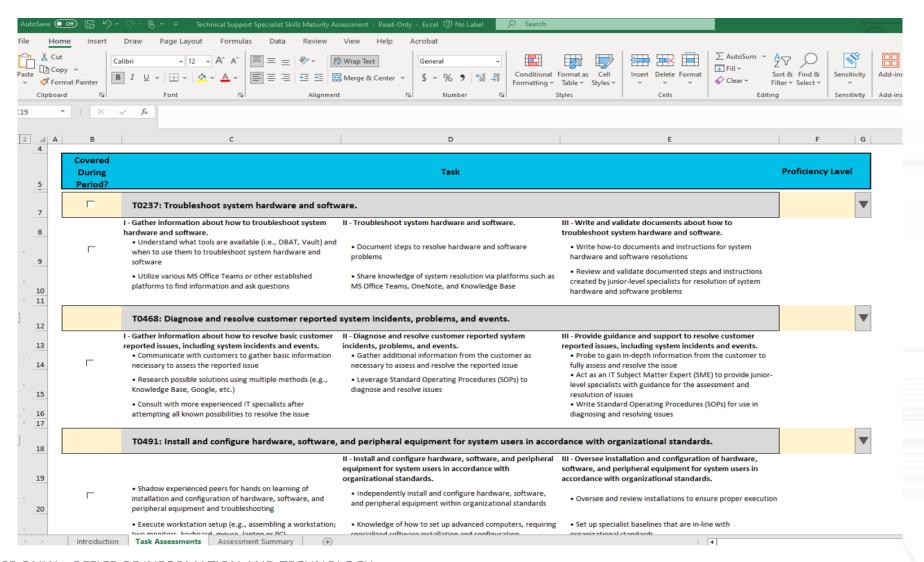
Discover opportunities for technical employees to apply for rotational assignments throughout the federal

#### Find Your Next Position

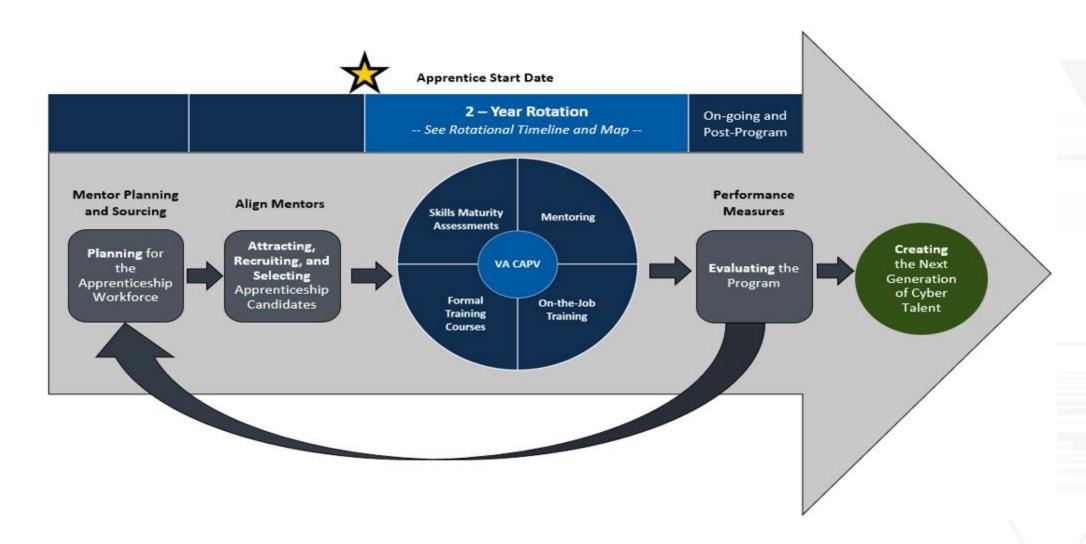
If you have interest in finding your rest fulltime placement, search VA and other federal employment opportunities.

**Back to Top** 

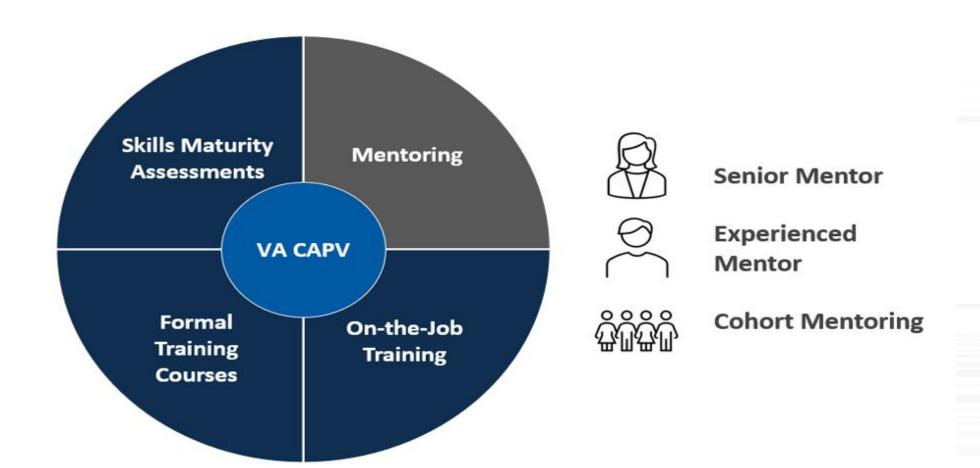
## **Career Development Portal TSS Skills Maturity Assessment**



## **VA Cybersecurity Apprenticeship Program for Veterans (VA CAPV)**



## **VA CAPV Program Cycle – Mentoring Details**



## **VA CAPV Program Cycle – On-the-Job Details**





**Job Shadowing** 



**Hands-on Learning** 



**Skill Execution** 

### **VA CAPV Program Cycle – Formal Training Details**



#### **VA CAPV Program Cycle – SMA Details**





**Demonstration of Knowledge** 



Required Supervision or Oversight



**Complexity to Perform Work** 

# CISA'S FEDERAL CYBER DEFENSE SKILLING ACADEMY

#### **FISSEA**

May 2024 Maureen Premo maureen.premo@cisa.dhs.gov



## **Cybersecurity Workforce Landscape**

The Federal Cyber Defense Skilling Academy (FCDSA) was created in response to the 2019 Presidential Executive Order 13870: America's Cybersecurity Workforce and aims to make a positive impact by mitigating existing cyber workforce gaps. As of October 2023, the following data spotlights both challenges and opportunities in the current cyber workforce landscape.



**82%** increase in federal cybersecurity job openings since 2010





68% growth is needed to meet current global demand



Sources: (ISC)2 "Cybersecurity Workforce Study." 2023

https://www.isc2.org/Insights/2023/10/ISC2-Reveals-Workforce-Growth-But-Record-Breaking-Gap-4-Million-Cybersecurity-Professionals

## Federal Cyber Defense Skilling Academy Background

In FY22, the Skilling Academy launched its inaugural course, offering students an opportunity to focus on professional growth through an intense, full-time, three-month accelerated cyber training program open to federal employees.

All courses are developed in alignment to the knowledge, skills, and abilities (KSAs) required for their respective cyber work roles as defined in the <u>National Initiative for Cybersecurity Education (NICE) Cybersecurity</u> Workforce Framework.

#### **Skilling Academy Program features:**

- Instructor-led 12-week course, 40-hour/week commitment, taught 100% virtually.
- Training consists of a mix of lectures, practices in realistic lab environments, and assessments.
- Students receive training which is aligned to globally recognized certifications.

#### **Current Offerings**

- Cyber Defense Analyst Pathway
- Cyber Defense ForensicsAnalyst Pathway
- Cyber Defense Incident Responder Pathway
- Vulnerability Assessment Analyst Pathway

## FY24 Skilling Academy Course Offering Expansion

In FY24, the Skilling Academy is offering three new courses mirroring the existing framework of the inaugural Cyber Defense Analyst (CDA) Pathway.

- Duration: 12-Weeks
- Number of Participants: 20-25
  Students per Pathway
- Target Audience: Full-time Federal Employees



#### **Cyber Defense Forensics Analyst Pathway**

**Goal:** Develop the skills required to investigate and analyze digital evidence in support of vulnerability mitigation.

**Eligible Certification**: EC Council's Computer Hacking Forensic Investigator (CHFI)



#### **Cyber Defense Incident Responder Pathway**

**Goal**: Develop the skills required to accurately identify, assess, and mitigate security incidents within a digital environment.

Eligible Certification: CompTIA's Cybersecurity Analyst (CySA+)



#### **Vulnerability Assessment Analyst Pathway**

**Goal:** Develop skills required to engage in penetration testing and vulnerability management to prevent cyberattacks.

**Eligible Certification**: CompTIA's Penetration Testing (PenTest+)





## For more information: Federal Skilling Academy

Questions? SkillingAcademy@cisa.dhs.gov

#### Artificial Intelligence and Cybersecurity

#### **Harold Booth**

National Institute of Standards and Technology





# Artificial Intelligence and Cybersecurity

**Harold Booth** 

National Institute of Standards and Technology





## Agenda



- Definitions
- Trustworthy Artificial Intelligence
- Al Risk Management
- NIST Work

## Definitions



Executive Order 14110: Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence

The term "artificial intelligence" or "AI" has the meaning set forth in 15 U.S.C. 9401(3): a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. Artificial intelligence systems use machine- and human-based inputs to perceive real and virtual environments; abstract such perceptions into models through analysis in an automated manner; and use model inference to formulate options for information or action.

## Additional Terms



Machine Learning
Generative Al
Foundation Models
Frontier Models
Al Red-Teaming

## Al Opportunities



- Translation
- Speech Recognition
- Automate Repetitive Tasks
- Find Patterns
- Aid Human Decision Making

## Core Building Blocks of Trustworthy Al





## NIST AI Risk Management Framework





#### Some Cybersecurity Questions to Ask:

- What is the task?
- Is Al necessary?
- What are the threat & deployment assumptions?
- Which attacks are still relevant?
- What metrics are applicable to highest priority risks?
- What experiments can generate those metrics?

## Al Risks









#### Consumer

- Intellectual Property
- Unreliable Output

#### **Producer**

- Data Protection
- Protect ML Tool Chain
- Input Validation

#### Landscape

- Synthetic Content
- New Fraud Uses
- Heterogeneity

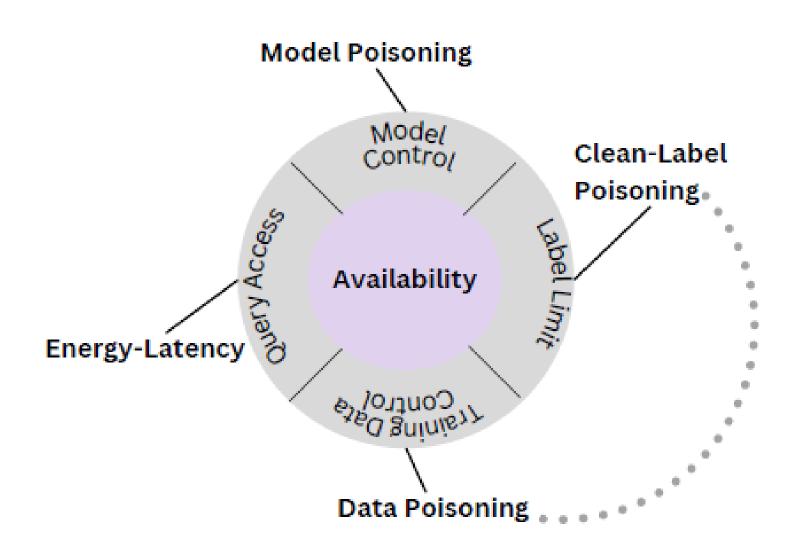
Document/Image Generation, Classification

**Chatbots, Classifier** 

Identity Verification, Email, Information Ecosystem

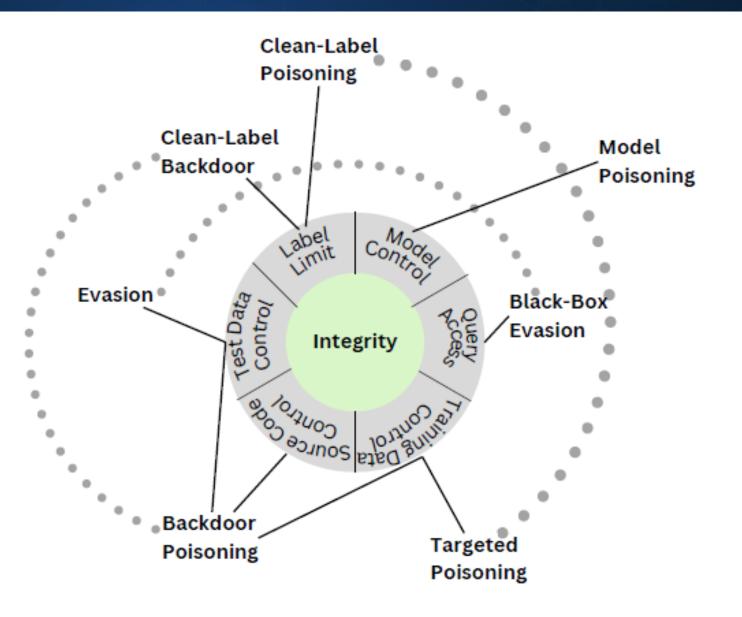
## Adversarial Machine Learning





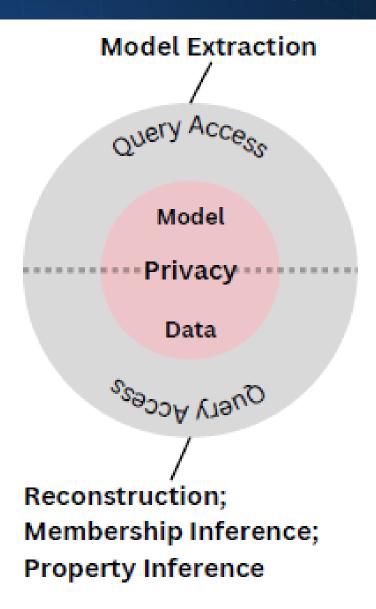
## Adversarial Machine Learning





## Adversarial Machine Learning



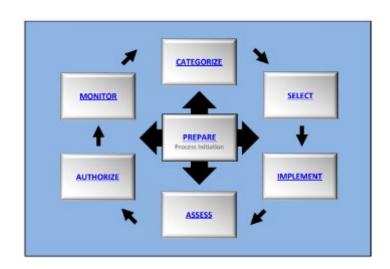


## Summary









**Understand Task** 

**Evaluate Risks** 

Implement and Deploy

Monitor and Manage Incidents

## Executive Order 14110



The President's Executive Order (E.O.) on Safe, Secure, and Trustworthy Artificial Intelligence (14110) directs NIST to:

#### **Create Guidance**

- Generative AI and dual-use foundation models
- Differential-privacy guarantee protections
- Red-teaming/testing
- Authenticity and provenance of synthetic content

## Develop Evaluation & Testing

- Test environments for evaluating AI capabilities, including those that could cause harm
- Availability of testbeds supporting the development of safe, secure, and trustworthy AI technologies

# Engage with Stakeholders & Develop Standards

- Global engagement on AI standards
- Synthetic nucleic acid synthesis providers engagement
- Minimum risk-management practices

## NIST's Progress on E.O.





Request for Information to inform NIST's assignments

Draft Guidelines for Evaluating Differential Privacy

Secure Software Development Framework Workshop

Pre-release testing of NIST's Dioptra infrastructure

Synthetic Content Report under interagency review

### AISI Consortium



November 2023: Release of Federal Register Notice (FRN) asking for letters of interest—over 600 received!

February 2024: Official launch of Consortium with inaugural cohort of more than 200 member companies

February 2024: Begin working with partners across five working groups

March 2024: Set work plans for the five working groups

Credit: NIST

# AISI Consortium Working Groups



Risk Management for Generative Al

Synthetic Content

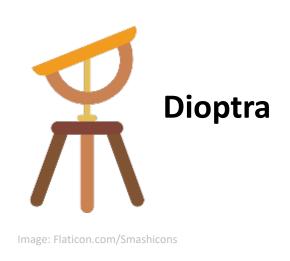
Capability Evaluations

Al Red-Teaming

Safety & Security

### Flexible and Modular Evaluation





- Shallow Net
- AlexNet
- LeNet
- ResNet50
- VGG16
- ...

Model Architecture



- Patch augmentation
- Poison Frogs
- Adversarial training
- ...

Data Augmentation



- Spatial smoothing
- Defensive distillation
- ...

Inference preprocessing



- MNIST
- Fruits360
- ImageNet
- ...

Dataset



- Fast Gradient Method
- Pixel Threshold
- Patch
- Membership Inference
- ...

Attack on trained model



- Clean accuracy
- Adversarial accuracy
- Robustness radius
- ...

Metric



Web:

https://github.com/usnistgov/dioptra

Email: dioptra@nist.gov



### Contact





https://www.nist.gov/itl/ai-risk-management-framework

https://airc.nist.gov/

https://www.nist.gov/artificial-intelligence/artificial-intelligence-safety-institute



AlFramework@nist.gov usaisi@nist.gov

### References



- Executive Order 14110: Executive Order on the Safe, Secure, and
   Trustworthy Development and Use of Artificial Intelligence
- NIST AI 100-1: Artificial Intelligence Risk Management Framework (AI RMF 1.0)
- NIST AI 100-2 E2023: Adversarial Machine Learning: A Taxonomy and Terminology of Attacks and Mitigations
- OWASP Top 10 for Large Language Model Applications
- NIST SP 800-218: Secure Software Development Framework (SSDF) Version
   1.1: Recommendations for Mitigating the Risk of Software Vulnerabilities

# References



- Deploying AI Systems Securely
- Guidelines for secure Al system development
- Engaging with Artificial Intelligence

# Backup

# Two Attacks, Three Defenses



#### **FGM Attack:**



#### Defenses:

Spatial Smoothing



JPEG Compression







#### Patch Attack:

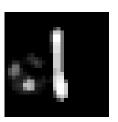


#### Defenses:

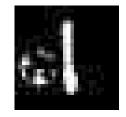
Spatial Smoothing



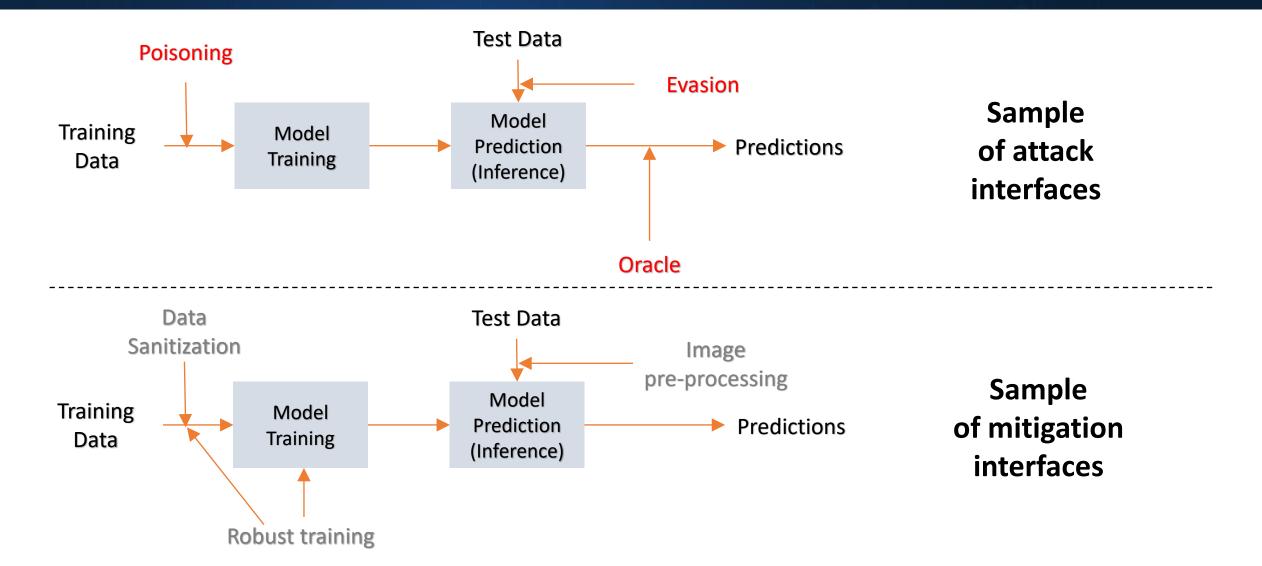
JPEG Compression







# Attack and Mitigation Interfaces in the Model Life Standards and Technology U.S. DEPARTMENT OF COMMERCE



#### CyberSecureFlorida: A Cyber-Readiness Blueprint for the Nation



Joshua Wethington
Assistant Program Director
CyberFlorida



James "Jim" Aldrich
Associate Director for Education & Training
CyberFlorida





EDUCATION | RESEARCH | OUTREACH

CyberSecureFlorida:
A Cyber-Readiness Blueprint for the Nation

15 MAY 2024



#### WHO ARE WE?



#### Established in 2014: FS 1004.444

Housed at USF to make Florida "the national leader in cybersecurity"

#### **Education**

Build and expand Florida's cybersecurity educational cybersecurity workforce development

#### Research

Enable and expand cybersecurity research capabilities across the state and enable technology innovation, transfer, and adoption

#### **Community Outreach and Engagement**

Enable community engagement and collaboration to raise cyber-awareness and resilience across the state

#### **Cybersecurity Public Policy**

Guide and shape public policy to enhance cybersecurity across the state.

# WHAT ARE WE DOING?

Making Florida the national leader in cybersecurity (FS 1004.444)

#### **GRANT-FUNDED & STATE INITIATIVES**

#### Florida's Cybersecurity Critical Infrastructure Risk Assessment Conduct a voluntary cybersecurity risk assessment for Floridabased public and private critical infrastructure organizations

#### **Statewide Cybersecurity Training Program**

Provide cybersecurity awareness and training courses tailored to job roles for all public-sector employees

#### Cyber Range (HB 5001)

Provide a cost-effective, realistic cybersecurity training environment for city, county, and local governments

#### **CyberWorks: Cybersecurity Workforce Development (NCAE)**

Prepare veterans and transitioning first responders for jobs in cybersecurity

# WHAT ARE WE DOING?

Making Florida the national leader in cybersecurity (FS 1004.444)

#### **ONGOING PROGRAMS**

#### **Operation K12**

Infuse cybersecurity awareness and career preparation throughout the Florida education system

#### **CyberLaunch NEW!**

Florida's first statewide high school cyber competition

#### **Teaching Digital Natives (TDN)**

#### **Outreach & Events**

Educate through public awareness campaigns and host events to help vulnerable organizations enhance their cyber posture; Sunshine Cyber Conference

#### **Policy & Research**

Fund and facilitate research and help guide public policy by educating both the decision-makers and the public on best practices and policy initiatives

#### **SOCAP: Security Operations Center Apprentice Program**

Provide hands-on experience to complement degree programs and services to support the public sector



- HB5001, Section 2944B
- \$30M non-recurring
- In consultation with the Department of Management Services and the Florida Digital Service
- In consultation with the Florida Cybersecurity Advisory Council

#### **Education AND Training**

Our aim is to have the State of Florida set the example in cybersecurity awareness, preparedness that meets NIST standards.

#### **Critical Infrastructure Risk Assessment (CIRA) CSET results from INL:**

Leaders need to know more about cybersecurity and organizations need to elevate their standards to the NIST standards.

#### **University of South Florida (USF):**

- Cybersecurity Awareness Certificate for FL SLTT Employees
  - The Florida Digital Service (FLDS) Local Resource Packet
- Cybersecurity Mgmt Training for FL SLTT Mid-Level Managers
- GIAC GSLC industry certification prep course and exam (coming soon)

#### **University of West Florida (UWF):**

- CompTIA and ISC2 industry certification prep courses and exams
- Technical Courses: Al and Machine Learning, Threat Intelligence
- Cyber Skills Exercises : Policy Writing, Ransomware, Phishing Scenarios





Total Trained to Date



Total Registered to Date

\*This includes individuals registered for multiple CyberSecureFlorida courses

#### Florida International University (FIU):

- Executive Seminar in Cybersecurity Leadership & Strategy
- Onsite Leadership training and seminars (catered to org. needs)
- FIU partners with 7 institutions across the state to minimize travel while providing more in-person sessions
- Online executive training course (coming soon)

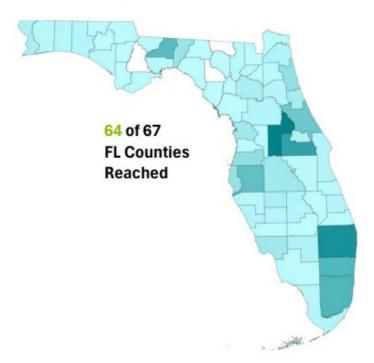
#### **National White Collar Crime Center (NW3C):**

- 3-day, in-person classes for FDLE focusing on cybercrime investigation
  - Dark Web, Crypto Currency

#### **Norwich University Applied Research Institute (NUARI):**

• Partner hosted Election Security Tabletop Exercises in-person 70 participants. CISA, FBI, FDLE, SimSpace, FLDS, County Sheriffs, SOE.





- CyberSecureFlorida Training programs continues to make an impact reaching 96% of Florida's counties (64 out of 67).
- The CyberSecureFlorida program now has over 40 courses and Tabletop Exercises available, including industry certifications prep courses with exam fees at no-cost.



- "This program is unique in having an entire class who are all experiencing the same things as you. It is much easier to have discussions when everyone is on the same page and it's not local government in the same class as the private sector with unlimited resources. It also allows you to expand your network and interact with others so that you can exchange ideas and discuss problems after the class is over."
  - Heather Stevenson, IT Manager, Clay County Sheriff's Office



#### **Lessons Learned:**

- No-Cost may also mean no investment by participants.
  - "Whats in it for me?"
- Endorsements play a critical role in validation and social proof that can influence decisions in the community.

Leadership support / Endorsements have weight.

- The market is competitive with many players who have more public notoriety, thus unique value propositions are needed to remain relevant.
- Collaboration with state agencies is crucial to building a complementary program. New mandates mean new training curriculum.
- Listen to your partners.
- Build relationships.
- Promote Execute Follow Up Promote More.
- Be creative in problem solving (there is always a solution).

  IAFCI Cyber Fraud Summit, Cyber Florida ARCS Range and more.



# ESTABLISH A TRAINING CYBER RANGE (HB5001)

- \$10M non-recurring
- \$500K recurring

#### **RANGE FEATURES**

- Florida County and Local government IT and cybersecurity personnel - public sector focused
- Cyber Range as a Service (CRaaS), 100% cloud-based training model
- No cost for public sector users
- Support Statewide Training Program

#### **KEY MILESTONES**

- ✓ SimSpace chosen as vendor in Feb 2024; soft launch in Feb 2024 "Aligned Realistic Cyberattack Simulation (ARCS)" Range
- ✓ Ribbon cutting of formal launch on 27 March 2024
- ✓ Currently 116 users across 13 counties on ARCS Range



- Coalition member of the National CAE Cybersecurity Workforce Development Program: CyberSkills2Work
- \$1.5M NSA/DHS Grant
  - Renewed in June 2023
- Industry partners include JPMorgan Chase, ReliaQuest, KnowBe4, Amazon Web Services, VMWare, Rapid7, Cisco, Raytheon, OPSWAT, GuidePoint

#### **CYBER DEFENSE ANALYST PATHWAY**

- NICE Work Role: Cyber Defence Analyst
- Number of Learners: 109 completed over two years.
- Courses/Badges: Network Fundamentals,
   Cyber Defense Fundamentals
- Industry Certifications: CompTIA Network+ and CompTIA Cybersecurity Analyst (CySA+)

Supports statewide training program and Cyber/IT Pathways Grant Project



- \$21M nonrecurring
- Partnership with the Florida
   Department of Education
- Collaboration with FIU, USF, and FAMU

# RECENTLY COMPLETED 14-MONTH PROGRAM TO EXPAND FLORIDA'S CYBER EDUCATION INFRASTRUCTURE

- \$21 M project to boost cybersecurity education statewide through subawards to public education institutions
- Facilitated 31 Subawards to State Universities, State Colleges, and School Districts
  - Scholarships at all levels
  - Recruiting for cybersecurity degree programs
  - Internships and Apprenticeships
  - Industry certifications
  - New and revised course content
  - Adult workforce development
  - Summer camps, training sessions, competitions, conferences
- Project period: 2022-2023

Producing playbooks so schools nationwide can implement these programs

### SUMMARY

#### CYBER FLORIDA IS FULLY ENGAGED

**Risk Assessment** 

**Education and Training** 

Cyber Range

Workforce Development

#### A STATEWIDE RESOURCE

**Engaged across the State** 

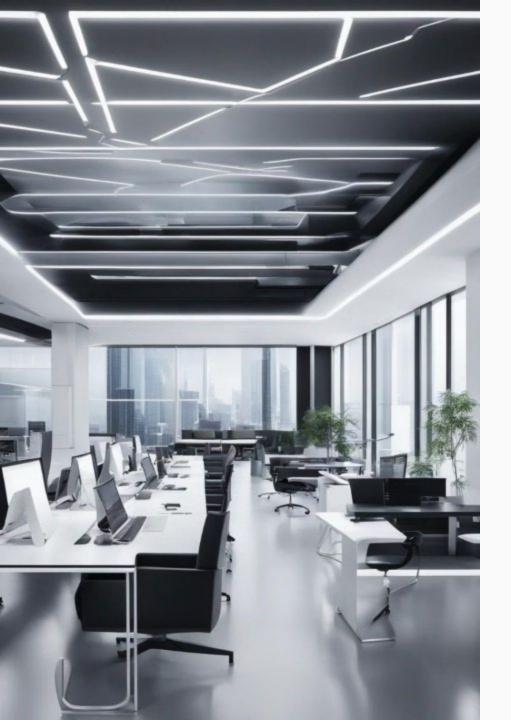
**Public and Private Sector** 

HELPING TO MAKE FLORIDA THE LEADING STATE IN CYBERSECURITY

### Cybersecurity Workforce Renaissance

Allen Westley
Director Cybersecurity
Space and Airborne Systems







# Cybersecurity Workforce Renaissance

Welcome, colleagues. Today, we embark on a journey to bridge the workforce gap in cybersecurity.



by Allen Westley



# The Current Workforce Landscape

Challenges Ahead

An honest look at the cybersecurity workforce void and its implications across industries and global security.

2 Ripple Effect

The reciprocating consequences of these vacancies resonate far and wide, impacting privacy and economic fabric.



# Bridging the Workforce Divide: Industry's Role

Educational Syllabi Integration

Championing authentic cybersecurity challenges in academic programs to prepare a resilient workforce.

Mentorship Triumphs

Illuminating tales of successful mentorship propelling individuals to new career heights.

Inclusivity and Empowerment

A call for embracing diverse recruitment and leadership models in our collective pursuit.



# Innovative Talent Cultivation Approaches

1 AI in Talent Scouting

Exploring AI and machine learning's role in identifying cybersecurity talents worldwide.

Adaptability in Training

Emphasizing the need for flexible and forwardlooking training strategies in cybersecurity education. 3 Creating Ingress Pathways

Outlining the role of internships and alternative educational frameworks in expanding our talent reservoir.



# Unity for Cybersecurity Workforce

-

#### Fostering Partnerships

Encouraging collaboration and shared ventures to address the cybersecurity workforce gap.

2

#### Anticipatory Leadership

Inspiring forward-thinking leadership strategies to proactively tackle emerging challenges.

#### Personal Growth Focus

Promoting a culture of continuous learning and personal development within the cybersecurity domain.







# Thought Leadership: Looking Towards the Future

Strategic Collaborations

Exemplifying cross-sector partnerships as a keystone for addressing the workforce gap.

Resilience and Integrity

The ethos of leading by example with unassailable integrity and resilience in the face of challenges.

Career Mastery Ethos

Urging professionals to embrace a trajectory of mastery and unending learning in their careers.



### Personal and Professional Growth



#### Collaboration

Fostering a culture of collaboration, knowledge sharing, and collective problem-solving in the cybersecurity community.



#### Vision

Instilling a visionary outlook to anticipate and address future cybersecurity workforce challenges proactively.



#### **Growth Mindset**

Promoting a growth mindset to foster continuous learning and career development in cybersecurity roles.



# Cybersecurity Future: A Unified Vision

Cybersecurity Collaboration	Cybersecurity Visionaries	Growth Mindset
Global partnerships to bridge workforce gaps	Industry leaders foreseeing future challenges	Continuous learning and career development ethos



# Cyber Renaissance Conclusion







Visual Representation

A futuristic cityscape infused with digital security symbols, exuding an aura of technological innovation and energy.

Synergistic Unity

A united team of cybersecurity professionals, exuding forward-thinking dynamism and collaborative synergy.

#### Cyber Renaissance

Iconic representation of innovative cybersecurity advancements, future-proof technologies, and diverse talent shaping the cyber renaissance.



### Security Awareness Reimagined

Mindy Baird
Senior Information Security Risk Specialist
Western & Southern Financial Group



# Security Awareness Reimagined

Mindy Baird
Western & Southern Financial Group



### Mindy Baird, CISA, CRISC, CIPP, CTPRA, CDPSE, SSAP

Senior Information Security Risk Specialist

4 years with Western and Southern Financial Group Security Awareness Program Owner Third-party Risk Management Assessor

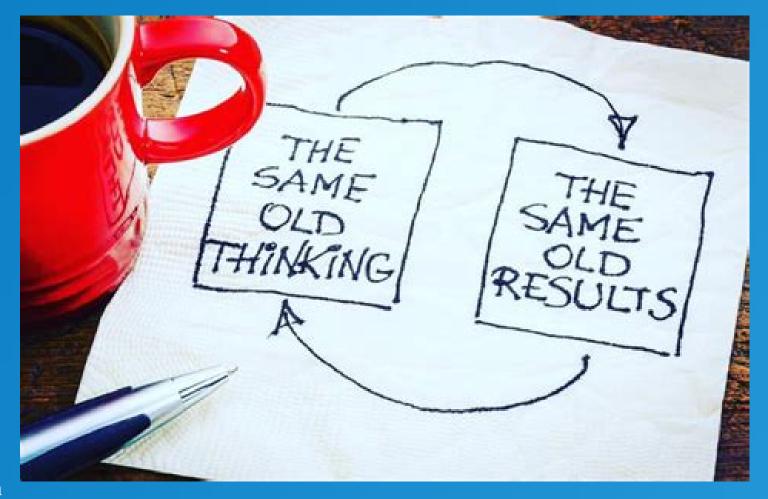


31 years with Procter and Gamble
Information Security, Internal Audit, Global Data Privacy manager

Infragard – Cincinnati Chapter FBI Citizens Academy Alumni

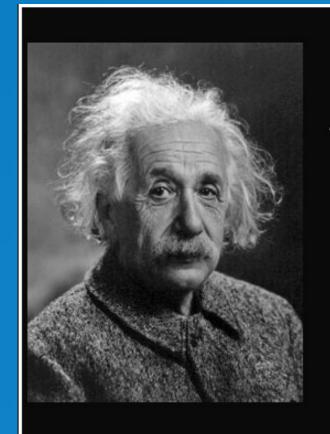


# Security Awareness Reimagined





#### Change to Produce Change



The world we have created is a product of our thinking; it cannot be changed without changing our thinking.

(Albert Einstein)

izquotes.com



#### Definition of Reimagine

To imagine or conceive something in a new way.

#### Opposite of Reimagine

 Crush, damage, demolish, destroy, harm, ignore, impair, prevent, remain, stay, wreck



#### Agenda

- Reimagine how you manage risk
- What's working/not working
- Why
- Relationships
- Engagement on a budget
- Metrics
- How to remain resilient



#### Status Quo

 We must change our approach to security awareness if we wish to see employee behavior change.





# Risk Management through Behavior Change

Compliance vs. psychology/human behavior





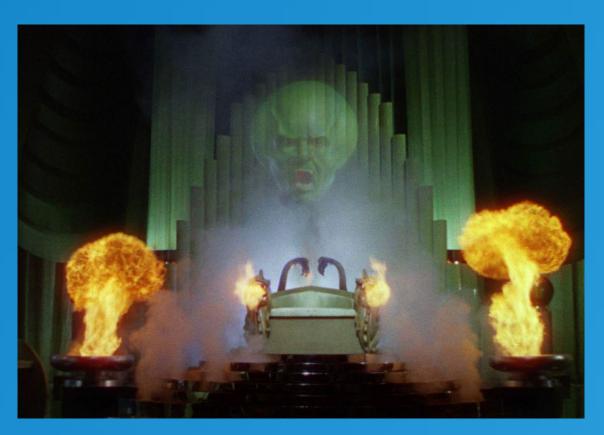
#### **Changing Behavior**

Our ultimate objective is to manage risk by changing employee behavior.

- Will our current image do that?
- How do we change it?

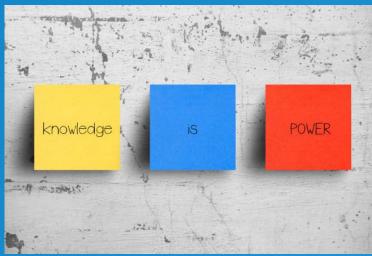
- Take time to explain
- Don't just tell them to do something.





#### Relatable

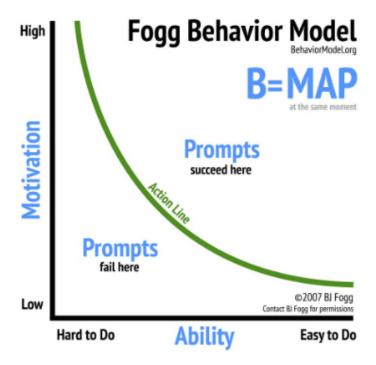
- Different Knowledgebase
- Informing/Educating
  - What data do they handle?
- What makes them care?
  - Make it personal







#### B.J. Fogg Behavior Model



Behaviormodel.org



# Relationships

The Business

Focus Groups

Security Champions

Advisory Board





# **Understanding the Business**







Security







#### Focus Groups

- A day in the life
- Goals/hurdles
- Their view of Security
- Become their partner
- Same team/shared objectives





# **Security Champions**



#### **Advisory Board**





■ HR ■ PR ■ Legal ■ Privacy ■ Compliance ■ Business ■ CSOC ■ Policy

#### Engagement on a Budget

Security compliance can generally address known threats but it takes a fully engaged workforce to deal with new and unknown attack vectors.

- Approachable
- Make it fun
- Think outside the box
- Reward and Incentivize



# Approachable

How are you being approachable?







#### Make it Fun

- Their interests
- Motivators
- Doesn't have to be big
- Be creative











#### Think Outside the Box

- What are others in your industry doing?
  - Ask "Around" Table

Speakers

Videos

Panel

FAQs

Speakers

Speakers

News
section



#### Videos

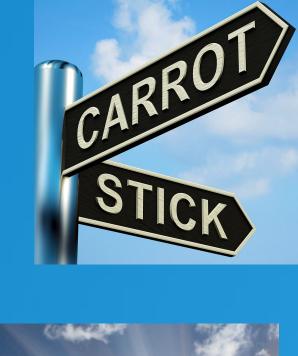




#### Reward and Incentivize

- Positive reinforcement
- No budget? No problem
- Security Nominations









# Keep Security in Forefront all Year





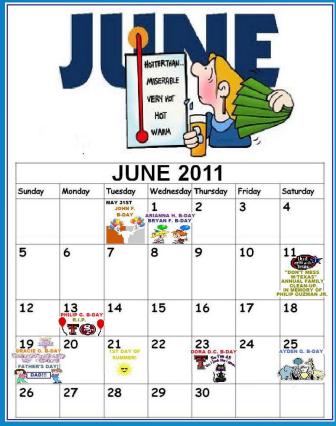








#### Plan Your Activities





# Change your image







#### **Metrics**

- Baseline
- Positive results who reported vs who clicked.
- Dashboard
- Audience
- Revisit regularly, at least annually.



#### Remaining Resilient

- Covid
- Budget cuts
- Employee turnover
- Increased phishing
- Ransomware on the rise

\* Principles and Objectives

# re·sil·ience

/ri'zilyəns/

#### noun

- the ability of a substance or object to spring back into shape; elasticity.
   "nylon is excellent in wearability and resilience"
- the capacity to recover quickly from difficulties; toughness.
   "the often remarkable resilience of so many British institutions"



#### Remaining Resilient

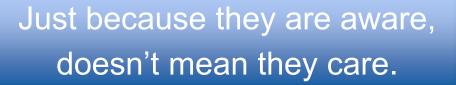
- Reduce risk through behavior change
- Ensuring engagement
- Risk will continue to change, and how we tackle that remains fluid.
  - Ransomware Readiness
  - Al
- Develop a program that allows you to exchange Risk A for Risk B, and allow you to flow to the risk in a way that reflects your principles and objectives.





#### Recap

- Reimagine/Think outside the box
- Compliance through engagement
- Relationships
- Shared Understanding
- Shared Objectives
- "Way of life" year-round vigilence
- Metrics

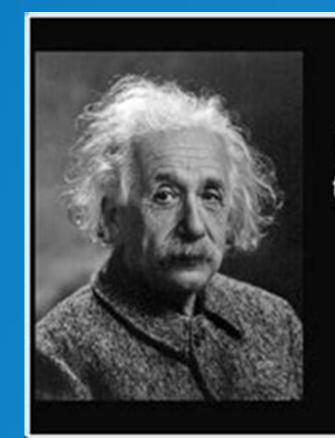








#### Challenge the Status Quo



Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning.

(Albert Einstein)





#### Questions?

Contact me:

Mindy.baird@westernsouthernlife.com



# 34th Annual FISSEA Conference

#### Lunch and Exhibitor Showcase



12:15pm-1:00pm ET

#FISSEA | nist.gov/fissea



# Welcome Back!

Brooke Crisp FISSEA Co-Chair





#### Empower, Equip, Defend: Building a Cyber-Ready Federal Workforce

Nat Prakongpan
VP of Product
Cyberbit







Empower, Equip, Defend

Building a Cyber-Ready Federal Workforce



#### **AGENDA**

<u>O</u>

Federal Government Cybersecurity

The Critical Need for a Skilled Workforce

03

Learning Methods that Empower the Workforce

Incentive-Based, Hands-On Approaches, Crisis Simulations

02

Engaging Learners, Retaining Knowledge Challenges of Traditional Training Methods

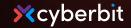
04

Live Demo

Witness a Live-Fire Cyber-Attack Simulation in Action!

# The U.S. Desperately Needs Cyber Talent

With almost 700,000 cybersecurity job openings, the United States doesn't have enough cybersecurity experts to protect the nation's critical infrastructure and federal networks from cyber threats



106

#### Cybersecurity Workforce Gap: 1 in 3 Positions Unfilled

There are only 69 skilled cybersecurity workers for every 100 that employers demand, meaning a shortage of nearly a third of the needed workforce.



# The Frequency of All Types of Attacks Against Government Agencies Have Soared

From 2022 to 2023:

- o 148% increase in malware attacks
- 51% increase in ransomware incidents
- 37% increase in fileless attacks
- 313% increase in endpoint security incidents
   (data breaches, unauthorized access, insider threats)

# Traditional Cybersecurity Training Methods are Failing

> Foundational training alone fails to equip employees with real-world skills and experience.

Textbook and rote learning fail to engage employees and nurture knowledge retention.

Neglecting soft skills fails to develop vital teamwork, communication, and critical thinking skills.



109



## **Empowering the Workforce**

- On-Demand Learning
- Immersive, Hands-On Experiences in Live-Fire Scenarios
- Alignment with National Cybersecurity Frameworks
- Incentive-Based Skill Development

## On-Demand

- access.
- > Promotes knowledge retention with hands-on learning.
- Accelerates capacity to detect and respond to cyber-attacks by making access available from anywhere, at any time.
- **Boosts** retention and engagement with digestible, concentrated messages on current topics.



# Hands-On Experience Is Essential to Creating Workforce-Ready Professionals

97% of cybersecurity professionals believe hands-on experience is very important.

## **Practice Makes Perfect**

Companies with an incident response team that also extensively tested their incident response plan experienced \$1.49 million

less in data breach costs on average than those that had neither measure in place.



# Immersive Live-Fire Cyber-Attack Scenarios: Building Hands-On Experience

Advanced realism and hands-on experience via live-fire exercises develop faster, better incident response capabilities, hone vital soft skills, and prepare teams for real-world attacks.

### NIST/NICE MITRE ATT&CK

# Alignment with National Cybersecurity Frameworks

Benchmark individual and team progress against industry frameworks to identify knowledge and skill gaps:

- NICE Cybersecurity Workforce Framework Work Roles
- National Institute of Standards and Technology Cybersecurity Framework
- MITRE ATT&CK Frameworks

## NICE® | NIST | MITRE | ATT&CK®

# Incentive-Based Skill Development to Maximize Team Potential:

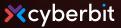
- Certification programs
- > CPE credits
- Shareable badges and rewards
- Customizable competitions

## **Government Crisis Simulations**

- Stress-test crisis management playbooks.
- Increase leadership's understanding of cyber incidents.
- Hone decision-making and critical-thinking skills.
- Provide hands-on, realistic experience handling crises.
- Boost cross-organizational communication & collaboration.
- Build confidence and resilience in the leadership team.







# Address the Challenges: The Cyberbit Skill Development Platform

## **Learn** the basics



## **Practice**

in advanced simulations



### Measure

your students



#### **Cyber Labs**

Fundamental skill development



#### **Cyber Range**

Live-fire exercises, real-world simulations



#### Courses

Beginner to advanced End-to-end curated programs



#### **Spotlights**

Bite-size videos theoretical content



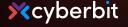
#### **Crisis Simulation**

Management-level cyber crisis exercises



#### **Assessment Center**

Automated evaluation and progress tracking



# Let's See a Live-Fire Cyber Attack Demo!

https://bit.ly/3QMf3O6





## Presentation of FISSEA Security Contest Winners Presentation of 2024 FISSEA Innovator of the Year

**Craig Holcomb** 

FISSEA Contest and Innovator of the Year Award Lead







FISSEA
Contest and
People's
Choice Award
Winners



## **Contest Categories**

- Awareness Poster
- Awareness Website
- Awareness Newsletter
- Awareness Video
- Cybersecurity Blog
- Cybersecurity Podcast
- Training Awareness
- Innovative Solutions



## Judging criteria

- Judges are not affiliated with any of the groups that submitted entries
- Judges are from various positions and industries



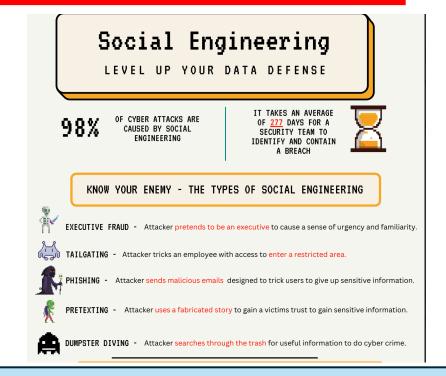
## **Awareness Poster - Entries**

- CenterPoint Energy "LVL Up Your Defense"
- Newworld "Orodeus"
- Department of Education "Beware of Hidden Threats"
- Cofense "Hollywood Phishing Credential Phishing (Jurassic Park)"
- Indian Health Service "Totally Outrageous Cyber Catalog Poster"



## **Awareness Poster – winner!**

• CenterPoint Energy – "LVL Up Your Defense"





## Awareness Poster – People's Choice winner!

• Department of Education – "Beware of Hidden Threats"





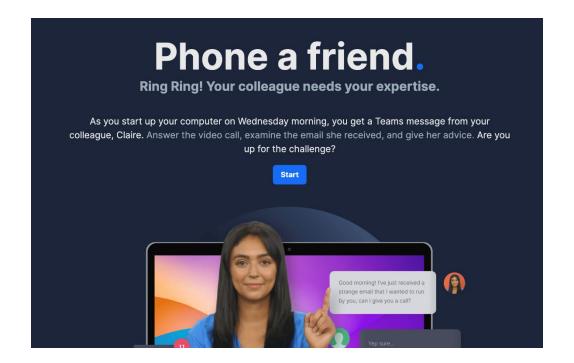
### **Awareness Website**

- Indian Health Service "See Yourself in Cyber"
- GSA "IDManagement.gov Modernizing Digital Identity"
- USPS "Cybersecurity Awareness Month 2022"
- Department of Education "Cybersecurity Symposium 2023 Get Your Knowledge #BoostED"
- Cofense "Phone a Friend"
- FRTIB "SETA Home Site"



### Awareness Website – winner!

• Cofense – "Phone a Friend"





## Awareness Website – People's Choice winner!

 Department of Education – "Cybersecurity Symposium 2023 - Get Your Knowledge #BoostED"





### Awareness Newsletter

- Indian Health Service "Cybersecurity Tools: Your Guide to a Safe School Year"
- Culture Literary International Friends Forum "newsletter"
- Cofense "Awareness Newsletter: Phishing and Microsoft QR Codes"
- FRTIB "SETA Newsletter"



## Awareness Newsletter – winner!

• Indian Health Service – "Cybersecurity Tools: Your Guide to a Safe School Year"

For K-12 Students:

Educate your children on cybersecurity matters

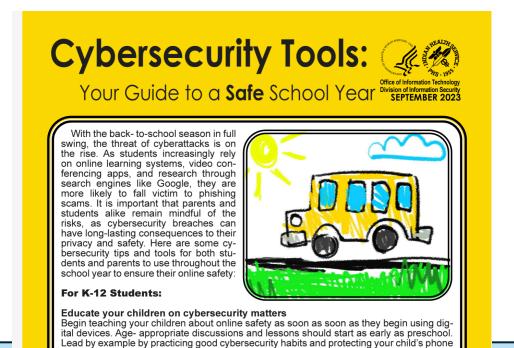
#### **Cybersecurity Tools: (** Your Guide to a **Safe** School Year Division of Information Security SEPTEMBER 2023 With the back- to-school season in full swing, the threat of cyberattacks is on the rise. As students increasingly rely on online learning systems, video conferencing apps, and research through search engines like Google, they are more likely to fall victim to phishing scams. It is important that parents and students alike remain mindful of the risks, as cybersecurity breaches can have long-lasting consequences to their privacy and safety. Here are some cybersecurity tips and tools for both students and parents to use throughout the school year to ensure their online safety:

Begin teaching your children about online safety as soon as soon as they begin using digital devices. Age- appropriate discussions and lessons should start as early as preschool. Lead by example by practicing good cybersecurity habits and protecting your child's phone

## FEDERAL INFORMATION SECURITY EDUCATORS FISSEA

## Awareness Newsletter – People's Choice winner!

• Indian Health Service – "Cybersecurity Tools: Your Guide to a Safe School Year"





## Awareness Video

- Indian Health Service "The Insider Threat at the End of This Video"
- Cofense "Phishnuts"
- FRTIB "SETA phishing awareness training video"



## Awareness Video – winner!

• FRTIB – "SETA phishing awareness training video"

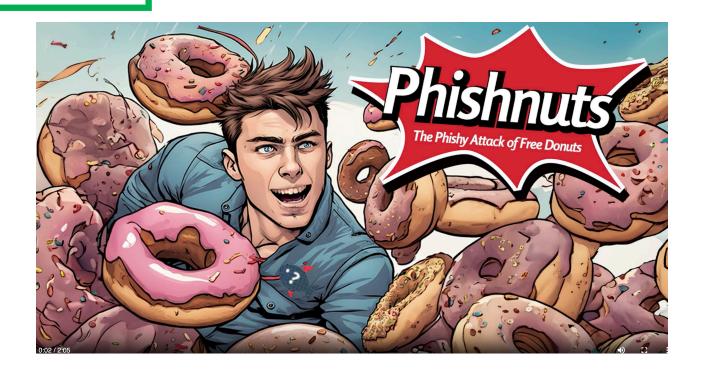


https://www.youtube.com/watch?v=GH-xc9EYQgk



## Awareness Video – People's Choice winner!

• Cofense – "Phishnuts"





## Cybersecurity Blog

- Indian Health Service "The Jennifer Reacts Blog!"
- Iraje Software Consultants Private Limited "Cybersecurity Community"
- Department of Education "Cybersecurity Bits and Bytes"



## Cybersecurity Blog – winner!

• Indian Health Service – "The Jennifer Reacts Blog!"

#### The Jennifer Reacts Blog!

#### October 2nd, 2023: The Simple Life of a Single Password User

Ah, the digital age! A time when even my fridge wants a password to keep my veggies fresh. From my cat Mr. Whiskers exclusive online feline fan club to that secret society of pineapple-on-pizza lovers I accidentally joined, everything demands a secret code. And let's face it, with my memory being as reliable as a goldfish's, there's no way I'm juggling multiple passwords.

So, in a stroke of sheer genius (and maybe a touch of laziness), I settled on the most groundbreaking password ever: "Password". I mean, it's so obvious that it's practically invisible, right? Like hiding in plain sight. Sherlock Holmes would be proud!

And about that mandatory security awareness training at the IHS? Nailed it! I played it in the background while trying to fix the jammed office printer. Who says you can't multitask? Now, if only I could remember which floor the radiology department is on...

372 Replies | 2639 Likes | 4291 Shares





## Cybersecurity Blog – People's Choice winner!

Department of Education – "Cybersecurity Bits and Bytes"





## **Cybersecurity Podcast**

• No entries!



## **Training Awareness**

- Indian Health Service "An Insider Threat at IHS"
- CenterPoint Energy "Cybersecurity Awareness- Safety Phishing Training"
- Department of Education "Information Guardians: Immersive Storytelling in Web-based Training"



## Training Awareness – winner!

• Indian Health Service – "An Insider Threat at IHS"



https://www.youtube.com/watch?v=DUhyWqVLN5Q



## Training Awareness – People's Choice winner!

• Department of Education – "Information Guardians: Immersive Storytelling in Web-based Training"





### **Innovative Solutions**

- Indian Health Service "Multi-Factor Authentication-Zee"
- Social Security Administration "SSA's Phish Your Colleague" Cybersecurity Awareness Month Program
- Nanoforz "Abercrombie&Forz"
- USPS "Smart Cybersecurity Moment slides"
- Department of Education "Cyber Badging Program: Friendly Competition Driving Behavioral Change"
- Cofense "QR Code Simulations and Education"



## Innovative Solutions – winner!

• Indian Health Service – "Multi-Factor Authentication-Zee"





## Innovative Solutions – People's Choice winner!

Social Security Administration – "SSA's Phish Your Colleague"
 Cybersecurity Awareness Month Program

### **About Phish Your Colleague**





The 2024 FISSEA Cybersecurity Awareness and Training Innovator of the Year is....

## It was a close race so...



## The 2024 FISSEA Cybersecurity Awareness and Training Innovator of the Year is

## Oz Alashe

CEO and Founder of CybSafe



# And the 2024 FISSEA Cybersecurity Awareness and Training Innovator of the Year Runner Up is:

## William D. Cosner

Cybersecurity Assessment Team Chief
Defense Contract Management Agency, Defense
Industrial Base Cybersecurity Assessment Center



Thank you to all the wonderful entrants!

Thank you to our judges!



## Closing Remarks



Marian Merritt
Deputy Director NICE
National Institute of Standards and Technology



**Brooke Crisp** FISSEA Co-Chair



Frauke Steinmeier FISSEA Co-Chair





# THANK YOU FOR ATTENDING 34th ANNUAL FISSEA CONFERENCE!

We look forward to receiving your feedback via the post-event survey!

https://www.surveymonkey.com/r/34thAnnualFISSEAConference

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## **Get Involved**



Subscribe to the FISSEA Mailing List FISSEAUpdates@list.nist.gov\_



Volunteer for the Planning Committee

https://www.nist.gov/itl/applied-cybersecurity/fissea/meet-fissea-planning-committee



Serve on the Contest or Award Committees for 2025 Email <a href="mailto:fissea@list.nist.gov">fissea@list.nist.gov</a>



Submit a presentation proposal for a future FISSEA Conference or FISSEA Forum

https://www.surveymonkey.com/r/fisseacallforpresentations



# SAVE THE DATE

Federal Information Security Educators (FISSEA) Summer Forum



September 17, 2024

#FISSEA | nist.gov/fissea

