



RAMPS POSTERS

June 2026

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About

The Regional Alliances and Multistakeholder Partnerships to Stimulate (RAMPS) Cybersecurity Education and Workforce Development ([RAMPS Program](#)) seeks to build multistakeholder workforce partnerships of employers, schools and institutions of higher education, and other community organizations. The specific goals of the RAMPS Program are to align the workforce needs of local business and non-profit organizations with the learning objectives of education and training providers conforming to the NICE Framework, increase the pipeline of students pursuing cybersecurity careers, upskill more Americans to move them into middle class jobs in cybersecurity, and support local economic development to stimulate job growth.

The following RAMPS posters were displayed at the [2026 NICE Conference & Expo](#) in Philadelphia, PA from June 1-3, 2026. Please note that these posters represent a subset of our active RAMPS programs.

These posters are designed to showcase unique program objectives, measurable outcomes, and community impact. Because our regional alliances span across various cohorts, the projects featured herein represent varying stages of development and implementation.

The RAMPS Program is supported by NICE, a program of the National Institute of Standards and Technology in the U.S. Department of Commerce, under cooperative agreements. Comprehensive NIST award information for the featured programs can be found in the appendix at the end of this document.



REGION:
WEST

Supporting the Southern Arizona region.

The SACWA addresses three goals aligned to the NICE Strategic Plan: 1) promote the discovery of cybersecurity careers and multiple pathways, 2) transform learning to build a skilled workforce, and 3) expand use of the NICE Workforce Framework. In Year 1, the Alliance advanced all three goals through a 20-hour intern practicum that builds professional and technical skills, co-design of employer-hosted capstone internships that create real career pathways, and ecosystem development grounded in a published regional gap analysis and full NICE Framework curriculum alignment.

→ Year 1 BY THE NUMBERS

Interns completed 20-hr practicum	NICE TKS items aligned across curriculum	NICE work roles covered	25+	Durable skills measured at Applying level	3
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Capstone Internship <i>[Goal 1: Promote Careers & Pathways]</i>	20-Hr Practicum <i>[Goal 2: Transform Learning]</i>	Ecosystem Development <i>[Goal 3: Expand Use of NICE Framework]</i>
<p>50-hour internships co-designed with employer partners:</p> <ul style="list-style-type: none"> → Scoped across three tiers of complexity to match real organizational needs and capacity → Provides verifiable, employer-supervised work experience for students → Directly addresses the entry-level experience gap identified in the Gap Analysis 	<p>15 high school interns completed a structured 20-hour experience:</p> <ul style="list-style-type: none"> → Earned IBM SkillsBuild digital credentials in cybersecurity and professional skills → Led a live cyber awareness session for middle schoolers as near-peer facilitators → Demonstrated measurable growth across America Succeeds/CompTIA Durable Skills categories 	<p>Regional stakeholder network</p> <ul style="list-style-type: none"> → Built cross-sector alignment between employers, educators, and workforce leaders on shared priorities → Published Regional Gap Analysis on cyber career entry in Southern Arizona → Employer interviews directly shaped internship design and priorities



January 2026 stakeholder convening



High school interns lead a hands-on cyber activity with middle school students

ECOSYSTEM PARTNERS



→ Year 2

Year 2 will scale the model with two NICE-aligned Intermediate Bootcamps serving 48 students, building the applicant pool for 25 Year 2 learners. Following internships, the team will debrief with employer partners and interns, compile a revised gap analysis, and convene stakeholders in September to co-design Year 2 programming and advance toward a sustainable regional talent pipeline. Updates will be shared with an expanded group of public and private sector employers and community organizations.

Check out our Regional Gap Analysis



Or Visit: www.azcyber.org

Nevada Cyberjutsu Training Academy (NVCTA)

Led by the Women's Society of Cyberjutsu

Impacting the State of Nevada

What We Do

No Cost Training:

TryHackMe

ISC2 Certified in Cyber

Google Cybersecurity

CompTIA Security+

SANS

Two Pathways

Foundational Training

SANS Training

Goals

We help individuals gain hands-on skills and support the enter and advance in cybersecurity.

Our goal is to provide at-your-own-pace training to Nevadans.

Our Impact

\$0

Tuition/cost for participants

6

Cohorts

20

SANS training recipients

90+

Total training recipients

2

Cyberjutsu Unplugged Events

125

Cyberjutsu Unplugged Attendees

Our Audience

- Career transitioners
- College students or recent graduates
- Current IT professionals

Must be 16+ and reside in the state of Nevada.

Key Stakeholders

UNLV

TiroSecurity

SANS

MGM

Palo Alto

Arctiq

Findlay

CheckPoint

Horizon3

Learn More



Scan to learn about NVCTA

Expanding Apprenticeship Pathways in the Inland Empire Through Strategic Workforce Partnerships

Led by Crafton Hills College – San Bernardino Community College District

Impacting the Inland Empire, California

PROGRAM OVERVIEW

Crafton Hills College is developing a workforce-aligned apprenticeship program designed to accelerate student entry into high-wage, high-demand careers. Through collaboration with regional partners and employers, the program connects education, hands-on training, and employment pathways to meet growing workforce needs in the Inland Empire.

KEY PARTNERS

- LAUNCH (Local Apprenticeship Uniting a Network of Colleges and High schools)
- Network Kinexion
- Local Employers
- California State University San Bernardino

WHY APPRENTICESHIP?

- ✓ Earn while you learn
- ✓ Industry credentials
- ✓ Reduced debt
- ✓ Direct employment



Program Goals

1. Apprenticeship Entry

2. Transfer Pathway

CYBERSECURITY APPRENTICESHIP PATHWAYS AT CRAFTON HILLS COLLEGE

Two Pathways. One Goal. Securing Our Future.



BENEFITS OF A CYBERSECURITY APPRENTICESHIP

- EARN** while you learn
- INDUSTRY-RECOGNIZED** certifications and credentials
- REDUCE** student debt
- STRONG CONNECTIONS** to employers and cybersecurity professionals
- CAREER GROWTH** in a high-demand, high-wage field



Building a strong cybersecurity workforce for the Inland Empire.

Protect Systems. Protect Data. Protect Our Future.



SCAN TO LEARN MORE ABOUT OUR CYBERSECURITY PROGRAM

PLANNING PHASE (CURRENT STATUS)

- ✓ Equipment purchased and deployed
- ✓ Marketing strategy in development
- ✓ Employer partners being identified and engaged
- ✓ Apprenticeship framework and curriculum mapping underway

- First cohort expected January 2027 with a goal of eight (8) apprentices
- Increased student access to high-wage career pathways
- Regional economic development support
- Sustainable apprenticeship pipeline
- Scalable model for future expansion

For more information, please contact Dr. Veronica Arrowood at vsmith@sbccd.edu



Placer Cybersecurity Talent Pipeline Collaborative

Led by:



Impacting the Placer County Region, CA

A multi-stakeholder collaborative working to create an integrated ecosystem of cybersecurity education and workforce development that responds to the regional economic needs.



Cybersecurity threat is high



Hiring and culture are strong



Need to build local talent pipelines



Technology is outpacing training

SOLUTION #1: TALENT PIPELINE MANAGEMENT



- Launched by the U.S. Chamber of Commerce Foundation
- Employer-led framework
- Demand-driven approach
- Consistent methods of bringing business, education, and workforce partners together
- Address and sustain high-quality workforce needs
- 11 IT employers
- 7 education, workforce, and community partners
- 5 high-demand occupations

SOLUTION #2: CAREER EXPLORATION

- Integrate virtual reality technology into high schools
- Dynamic and interactive engagement with a wide array of professions
- Virtually explore careers in a fraction of the time of standard field trips
- Help students discover their passion and understand opportunities
- Partnerships with Title I High Schools to reach disinvested communities
- Hosted 20 high school students focused on IT/cybersecurity



NEXT STEPS:

Exploring potential local talent pipelines for citizens into IT/cybersecurity careers:

Business event or series

Accelerated training program

Formalized on-the-job opportunities and/or tools

NW Cyber

Paving the Way to Careers in Cybersecurity

Led By the NW Cyber Team: Steve Parker, Twila Denham, Kalika Black

Serving Oregon and SW Washington

Who We Are



NW Cyber is a workforce program of EnergySec, focused on growing and sustaining the cybersecurity talent pipeline of Oregon and SW Washington.

Over the past 2 years, NW Cyber has built and scaled a regional cybersecurity workforce pipeline through RAMPS funding—establishing core infrastructure in 2024 (branding, website, communications, and strategic partnerships) and expanding in 2025 through K–12 outreach, educator engagement, and industry collaboration. Key efforts include launching the NW Cyber Career Expo, aligning programming to the NICE Framework, developing a hands-on internship model, and creating reusable career pathway resources to support sustained workforce development.

Our Mission is to grow and sustain the cyber workforce in the Pacific Northwest.

Key Metrics & Activities

- **Program Foundation (2024):** Established branding, website, communications platform, and outreach strategy; Coordination and Planning with Technology Association of Oregon and NW Cyber Camp for Youth Cyber Summit and Career Expo 2024
- **K–12 Initiatives:** Career fairs, Cybersecurity 101 Classroom Presentations, Student meetings, Career Expos and Cybersecurity Summits
- **Reach:** 7,500+ students reached through presentations, career fairs, and large-scale events; 40+ schools connected
- **Programs Developed:** Replicable high school cybersecurity internship model; reusable NICE-aligned career pathway materials and presentations
- **Career Pathway Partners:** NW Cyber Camp, STEAM Coalition, Saturday Academy, Uplift, Reynolds Learning Academy
- **Industry Engagement:** 18+ partners, including Spitzer Technology Consulting; participation in CyberForce and national cybersecurity career fairs
- **Speakers Bureau:** David Spitzer, David Reinecke
- **Ecosystem:** Ongoing collaboration with educators, counselors, STEM hubs, and workforce organizations
- **Visibility & Growth:** Participation in NICE Conference, career fairs, workshops, and regional networking events

Program Goals & Future Plans

NW Cyber will continue expanding its impact by **broadening access** to cybersecurity career pathways and **deepening hands-on learning opportunities**.



Priority efforts include increasing outreach to rural and underserved

communities, launching scholarships to support students pursuing cybersecurity certifications, and scaling the high school internship program to reach more students and employer partners.

The program also plans to develop a dedicated lab environment to provide immersive, real-world cyber training experiences, alongside introducing a quarterly, one-day cybersecurity tabletop event series designed to engage youth in practical, scenario-based learning.



Connect with NW Cyber

Scan Me!



Email: info@nwcyber.org
Website: nwcyber.org

LinkedIn: [@nwcyber](https://www.linkedin.com/company/nwcyber)
X: [@nwcyber](https://twitter.com/nwcyber)

Facebook: [@nwcyber](https://www.facebook.com/nwcyber)
Instagram [@nwcyber_oregonwashington](https://www.instagram.com/nwcyber_oregonwashington)



PROJECT TITLE

Accelerating Cybersecurity Workforce Readiness in Northwest Washington State

PROJECT LEAD

Brent Lundstrom
Director, Cybersecurity Center of Excellence
Whatcom Community College
Bellingham, WA

AREA OF IMPACT

Northwest Washington State · Whatcom, Skagit, Snohomish & King Counties



2026 NICE CONFERENCE & EXPO · PHILADELPHIA, PA

RAMPS GRANTEE
Award 70NANB25H167

2

Micro-credentials
Developing

4

Regional Educator
Workshops

10+

Students
Targeted (2026)

3

Employer
Validation Sessions

THE CHALLENGE

Northwest Washington faces a critical gap between employer demand for cybersecurity talent and the available local workforce pipeline.

Roles like Cloud Security Engineer and AI Security Analyst are in high demand, yet education and training pathways remain fragmented and misaligned with real employer needs.

Community colleges and K-12 institutions lack structured guidance on mapping coursework to in-demand roles — leaving students underprepared and employers understaffed.

OUR APPROACH

- 4 regional workshops for high school & college educators on cybersecurity careers and student advising
- Regional Community of Practice (CoP) led by the Northwest Educational Service District (NWESD) to align IT/cyber curriculum across education sectors
- 2 stackable micro-credentials: Cloud Security Engineer & AI Security Analyst — mapped to the NICE Workforce Framework
- Employer co-development & validation of all credential content through industry engagement sessions with Microsoft and WaTech
- Equity-focused evaluation with independent evaluator and performance dashboard tracking key deliverables

NICE FRAMEWORK ALIGNMENT

All micro-credentials and learning outcomes are mapped to the NICE Workforce Framework for Cybersecurity (NIST SP 800-181r1), including applicable Work Roles, Tasks, and Knowledge & Skill statements.

Work Roles	Tasks
Knowledge	Skills
Competency Areas	Alignment Matrix

A documented NICE alignment matrix is produced for each credential as a required deliverable.

KEY ACHIEVEMENTS

- RAMPS grant launched and project team onboarded
- Community of Practice kick-off completed (April 2026)
- Cyber Career Exploration Workshop #1 — Tacoma Community College (April 2026)
- Education Design Lab engaged for employer validation sessions

COMING UP

- Workshop #2 — Highline Community College (May 2026)
- 3 employer validation sessions with Microsoft and WaTech (May–July 2026)
- Micro-credential curriculum drafts & NICE Framework mapping (July–August 2026)
- Micro-credential pilot — 10+ student completions (September 2026)

Whatcom Community College

Fiscal & Academic Lead

Northwest Educational Service District (NWESD)

Implementation Lead & CoP Facilitator

Employer Partners

Microsoft · WaTech

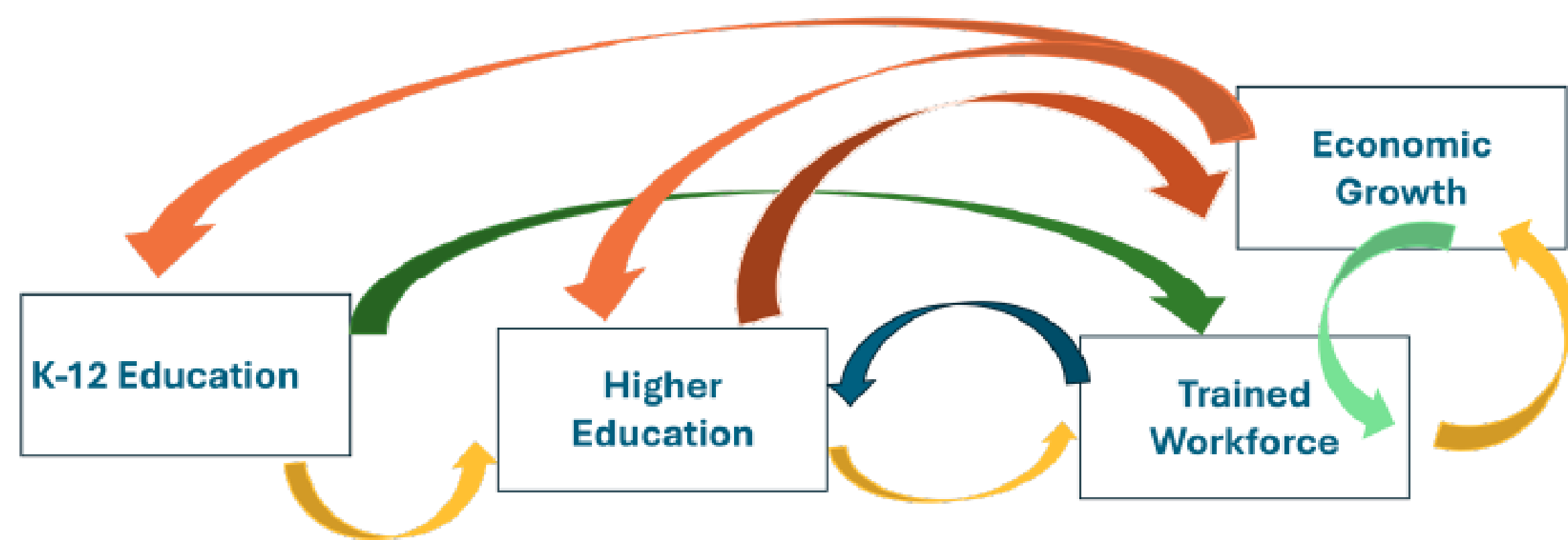
An aerial night view of a city, likely Chicago, featuring a prominent elevated highway with light trails from traffic. The city skyline is visible in the background with various skyscrapers. A network of white lines and circular nodes is overlaid on the image, suggesting connectivity or data flow. Several white location pin icons are scattered across the scene. A large, semi-transparent white shape is positioned in the lower-left quadrant, containing the text.

REGION:
MIDWEST

MULTIDISCIPLINARY PATHWAYS TO CYBERSECURITY PROFESSIONALS—2026 NICE CONFERENCE & EXPO

Led by Miami University

Impacting the Southwest Ohio Region



Project Goals

Address Evolving Knowledge and Skills Gap for Cybersecurity Professionals

- Advisory board meeting, roundtable discussion
- Conduct gap analysis
- Develop CAE-Aligned and Workforce-Driven Cybersecurity Curricula

Coordinate Multidisciplinary Pathways Among K-12 Schools, Higher Education and Industry

- Cyber Merit Badge
- Inspiring the Next Generation of Computer Scientists
- Cybersecurity Internship
- Bring AI to High School Classroom
- Cyber Defender Summer Scholars Program
- Cybersecurity Careers Speed Networking Event

Drive Sustained Improvements through Enhancing Workforce Capabilities and Talent Retention

- Certificate Program

Highlight K-12 Events



Cybersecurity Merit Badge Day at National Air Force Museum in Dayton, Ohio
December 13, 2025

James Walden shared insights on why cybersecurity matters, attributes of cyber attacks, frameworks for cyber defense, and Miami University's Cybersecurity mission.



- Summer Camp topics like ethical hacking, cyber defense, and digital forensics.
- Visit to US Bank's Cyber Fusion Center.
- Gandalf Game-- Cybersecurity & AI Challenge.

Industry Collaboration



- Connecting our students with 12 successful professionals in the cybersecurity industry
- Industry speakers
- Internship career fair



Miami University Cybersecurity Club Presents

Understanding OSINT: The Power of Open-Source Intelligence

The Importance of OSINT

- OSINT gathers actionable insights from publicly available information.
- It is essential for strengthening cybersecurity and identifying potential risks.
- OSINT supports informed decision-making across industries and daily life.

70% of useful intelligence for cybersecurity operations comes from open sources.

- It is vital for cybersecurity professionals, law enforcement, businesses, investigators, and individuals.
- Common OSINT sources include social media, domain registries, public databases, search engines, and dark web monitoring tools.
- Attackers exploit it to find targets, while defenders use it to identify and fix weaknesses.

Ross Flynn
Co-Founder, Black Bison Cyber

Cincinnati-Dayton Cyber Corridor (Cin-Day Cyber): A Regional Consortia Approach to Cybersecurity Education and Workforce Development

Led by Strategic Ohio Council
for Higher Education (SOCHE)

Impacting the Cincinnati-Dayton Ohio Region

Digital Forensics Curriculum Development

- **GOALS:** Develop Digital Badges in Digital Forensics that will be hosted on the Ohio Cyber Range. The Digital Badges are stackable and can be combined to form Industry Recognized Credentials (IRCs)
- **PARTNERS:** Ohio Cyber Range Institute (OCRI), Lorain County Community College, Stark State College, University of Akron, Wright State University, University of Dayton, Tiffin University
- **AUDIENCE:** High School and College Students
- **PROCESS:** The subcommittee of partnering universities develop a list of potential Badges which are then organized by order of importance. The Badges are divided between the partners for development based on the partner's areas of expertise

Persistent Cybersecurity Clinic Internship Program (PCCIP)

- **GOALS:** Provide mandated cybersecurity training for local governments for the Ohio Persistent Cyber Improvement project (O-PCI)
- **KEY STAKEHOLDERS:** Ohio Cyber Range Institute (OCRI), high performing cybersecurity college students
- **AUDIENCE:** Ohio Local Government Entities (LGEs)
- **PROCESS:** College students are trained on the curriculum created by OCRI and then assigned to LGEs to train the organization to defend against cyber threats
- **KEY ACHIEVEMENTS:**
 - First Round of College Participants: 113 college students who study a variety of cybersecurity related fields
 - 16 colleges/universities involved
 - First Round of LGEs: Anticipate 600+ LGEs will be served

SOCHE Impact in 2025

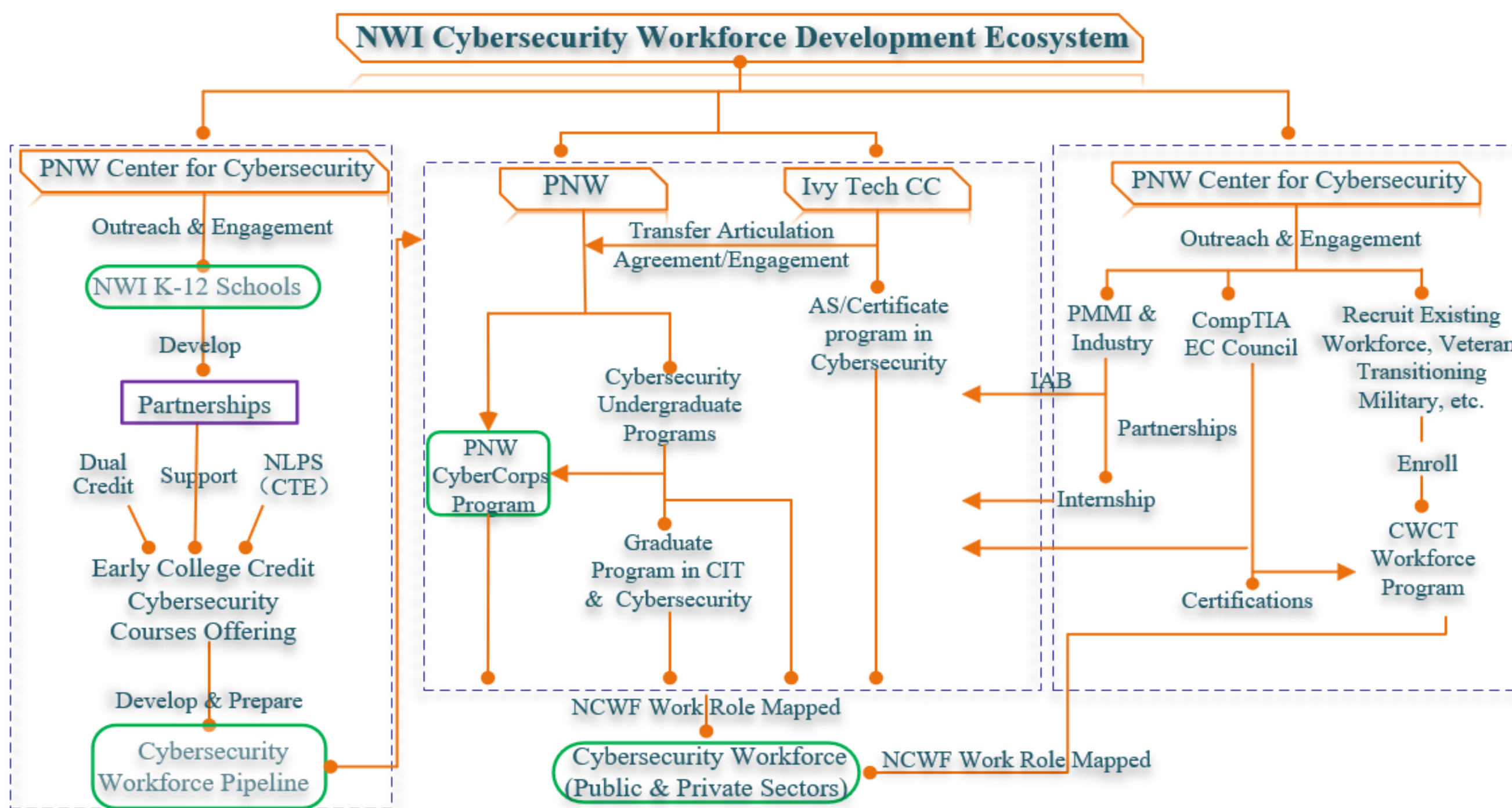
- **COMMUNITY**
 - \$10B impact on economy
 - 30K+ degrees & certifications
 - 300K+ students enrolled
- **EMPLOYERS**
 - 500+ companies served
 - 2,000+ student intern applications
 - 3,000+ job seekers resumes
 - 10,000+ veterans served
- **STUDENTS**
 - 800+ career exploration activities
 - 1,000+ high school and college students employed
 - \$3.9M in student wages
 - 90% offered full time jobs
- **HIGHER EDUCATION**
 - 20+ communities of practice
 - 30+ professional development events
 - 32 member institutions
 - 100+ Masters & PhD students hosted
 - 3K+ webinars viewed

Create a RAMPS Cybersecurity Workforce Development Ecosystem in the Northwest Indiana Region and Beyond



Pls: Dr. Michael Tu
Dr. Keyaun Jiang

Impacting the Northwest Indiana and Neighboring Chicago Metropolitan Region



The NWI RAMPS Partnerships

Academy: Purdue University Northwest (lead), Ivy Tech Community College, K-12 schools (cybersecurity course offering)

Industry: PMMI (the association of the Packaging & Processing Technologies) and its industry members in the NWI area, CompTIA and EC Council (academic partnership)

Government: Lake County HTCU (High Tech Crime Unit at PNW Campus), local government

Non-profits: MWCCDC (Midwest regional Collegiate Cybersecurity Defense Competition)

NWI RAMPS Project Objectives and Activities



Project Objectives

- Expand the cybersecurity workforce pipeline through K-12 community engagement and Establish cybersecurity education and workforce development pathways from the K-12 to the graduate level.
- Develop NICE Framework guided cybersecurity workforce competency through industry certification preparation, hands-on learning, cybersecurity competitions, and internships.
- Sustain cybersecurity workforce development programs through the offering of scholarship programs (SFS, DOW CSA) and free cybersecurity training.
- Strengthen and expand the multistakeholder partnership by engaging and partnering with NWI advanced manufacturing industry and beyond.



NSF SFS CyberCorps Scholarship: 24 enrolled, 22 placed, 1 in active seeking, 1 dropped to private industry
DOW CSA: two students enrolled, one placed, and one in process
VICEROY: 19 students enrolled



Cybersecurity Training Programs

DoJ IoT Forensics Training for LE: 4 training sessions, 1 online national wide 8 weeks training (29 LEs), 3 in person training with 56 LEs (law enforcement officers).

CWCT: online AI and Cybersecurity Workforce Certification Training (CWCT) free for military-affiliated learners & government personnels.
Status: 18,500+ applications, 3,800+ enrolled in CWCT training, 22 8-week sessions offered with 381 courses delivered lively over zoom.

Focus Areas

- Artificial Intelligence
- Security Administration
- Digital Forensics

Training Paths

- CWCT Entry (3 Courses)
- Security Admin Professional (6 Courses)
- AI Professionals (4 Courses)
- AI Literacy (2 courses)
- Digital Forensics Professional (4 Course)

Cybersecurity Competitions

DoE Cyber Force: PNW students (team of six) have been supported to participated in two Cyber force Competitions November 15-16, 2024, November 14-15, 2025

CCDC Indiana: 10 PNW students competed in 2026

Midwest CCDC Hosting: Purdue University Northwest (PNW) welcomed over a hundred students representing 12 colleges and universities from across 10 Midwest states for the 2026 Midwest Regional Collegiate Cyber Defense Competition on March 20-21, 2026.



regional alliances and multistakeholder partnerships

ILLINOIS CYBER RAMPS

Led by:
Moraine Valley
Community College
Dr. Kristine Christensen

IMPACTING THE MIDWEST REGION - ILLINOIS

70+

STUDENTS ENGAGED

80%

LEFT MORE INTERESTED
IN CYBER CAREERS

15

CAE-CD INSTITUTIONS
PARTICIPATING

8

REGIONAL HIGH
SCHOOLS REACHED

CERTIFICATION TRAINING & MODERNIZATION

- **AI-Enhanced Curricula:** Updated CISA, CISM, and CISSP prep materials to reflect AI's impact on cybersecurity.
- **Professional Development:** Delivered educator workshops on evolving threats and emerging technologies.
- **Industry Alignment:** Continued Microsoft Azure certification training aligned to NICE Framework roles.
- **Expanded Credentials:** Planned rollout of IAPP CIPP prep to address growing data privacy needs.

STUDENT OUTREACH (STICKER HEIST)

- **Impactful Engagement:** Reached 70+ students from eight high schools during Manufacturing Day (Oct 2025).
- **High Success Rates:** 80%+ of attendees reported increased interest in cybersecurity careers.
- **Hands-on Simulation:** "Sticker Heist" lets teams perform recon and exploit vulnerabilities in real-world workflows.
- **Sustainability:** Used a train-the-trainer model to enable faculty-led CTF competitions.

CURRICULUM DEVELOPMENT (CMMC & C2M2)

- **CMMC 2.0 Training:** Completed hands-on CMMC training with integrated AI components.
- **C2M2 Readiness:** Developed C2M2 training for critical infrastructure sectors.
- **Training Launch:** First cohort set for May 26–29, 2026, for faculty and defense industrial base partners.
- **Regional Need:** Addressed key compliance needs for Illinois business and academic partners.

COUNSELING TOOLKIT

- **Empowering Advisors:** Created training and materials to help counselors guide students into cybersecurity pathways.
- **Broadening Pathways:** Expanded the toolkit to include cyber-adjacent majors like data privacy and manufacturing.
- **Evidence-Based Guidance:** Provided insights on the regional cybersecurity workforce and academic programs.
- **Strategic Dissemination:** Planned rollout in early August 2026 to prepare advisors for the new academic year.



ILLINOISCYBER.org

CyberReady® 2.0 Advancing SMEs Cybersecurity Readiness Through Workforce Aligned Implementation in Critical Supply Chains

Led by: Doreen Gonzalez-Gaboyan
Industry Workforce Solutions-
IWS CyberReady 2.0

*Impacting the Northwest Indiana Region
Cybersecurity Requirements are Increasingly Determining which Suppliers Remain Eligible in Critical Supply Chains*

CyberReady® 2.0 Model

- ✓ Delivers a workforce-aligned cybersecurity implementation model tailored to SMEs
- ✓ Operationalizes the NICE Framework into practical, business ready capabilities
- ✓ Provides structured pathway from initial assessment to compliance
- ✓ Purpose-built to enable SMEs in meet real-world cybersecurity and supply chain requirements
- ✓ Engages regional employers across critical sectors including steel, oil, gas, and energy



Maritime Cyber4Work

Building Critical Infrastructure Cybersecurity

Led by the University of Southern Mississippi

PI - Dr. Sarah Lee



Impacting the Gulf Coast Region, Mississippi

Maritime Cyber4Work addresses the critical shortage of cybersecurity professionals in the Gulf Coast’s maritime and critical infrastructure sectors. Led by USM — a Carnegie R1 institution with National Center of Academic Excellence in Cybersecurity (CAE-CD) designation — in partnership with Mississippi Coding Academies (MCA) and regional employers.

Core Insight: Governance Focus— Two-Tier Training— Regional Impact, Expert Leadership.



Building workforce-ready skills

What We Offer

Tier 1: Foundation Bootcamp

● Now Enrolling — Starting April 2026!

- ▶ **CompTIA Security+** certification bootcamp at MCA Biloxi
- ▶ **CompTIA CySA+** (Cybersecurity Analyst+) — coming soon
- ▶ Delivered through Mississippi Coding Academies (MCA) — no cost to participants

Tier 2: Graduate Pathway

18-Credit Graduate Certificate

- ▶ Cybersecurity policy, risk management & compliance
- ▶ Stackable into 30-credit MS in IT and Cybersecurity Management
- ▶ Aligned to NICE Framework governance work roles
- ▶ Open to degree- and non-degree-seeking students

Key Partners & Target Populations

Industry Partners

- ▶ Mississippi Coding Academies (MCA)
- ▶ Port of Gulfport & MS State Port Authority
- ▶ Hyperion Technology Group | Integer Technologies
- ▶ Potentia Analytics
- ▶ Advisory Council: School of Computing Sciences

Target Populations

- ▶ Veterans & active military (Camp Shelby, Keesler AFB)
- ▶ Rural and underserved communities statewide
- ▶ Community college transfers
- ▶ Non-traditional learners and career changers

Where We Are Now



Training Launched

Security+ bootcamp underway at MCA Biloxi, April 2026



Partnership Active

USM + MCA collaboration established; employer partners engaged



Coming Next

CySA+ bootcamp, Tier 2 enrollment, Advisory Council

NICE Workforce Framework for Cybersecurity (NICE Framework) Alignment

- ▶ **SP-RSK-001 Risk Management Analyst:** Assess and mitigate cybersecurity risks in maritime environments
- ▶ **OV-MGT-001 Information Systems Security Manager:** Oversee cybersecurity programs for critical infrastructure
- ▶ **OV-SPP-001 Cyber Policy and Strategy Planner:** Develop governance frameworks for smart port technologies



Scan to Learn More

usm.edu/computing-sciences-computer-engineering

NOFO: 2025-NIST-RAMPS-01 | Sarah.Lee@usm.edu | University of Southern Mississippi, School of Computing Sciences and Computer Engineering



regional alliances and multistakeholder partnerships

Missouri Cyber Readiness: Beyond the Skills Gap

Led by CyberUp and
Regional Partners in
the State of Missouri

Impacting the Greater St. Louis Region & Beyond

The Challenge: *Evolving the Narrative*

THE PROBLEM:

- Over 7,000 open roles across the state
- Accessible, but not collaborative trainers and providers to support students and business needs

UNEVEN RESULTS:

- The state has the tools to support cybersecurity efforts, but limited connectivity prevents impact at the community level
- This gap leaves students without the skills employers need
- As a result, businesses lack the talent and tools to protect their digital assets



THE SOLUTION:

- Align stakeholders to create a K-career pathway that develops, supports, and scales Missouri's technical talent for today and the future

Key Achievements to Date

STATEWIDE SCALE & NETWORK GROWTH

- Expanded **MO Cyber Ready** network from 3 → 12 partners
- Developed roadmap for a 24/7 statewide **Security Operations Center (SOC)** to support rural MO and small businesses
- Hosted **MO Cyber Capitol Day**, directly educating 9 state legislators and the Speaker of the House on workforce investment

WORKFORCE IMPACT & TRAINING

- **750+ individuals** trained through the MO Tech First impact group
- **\$7.5M mobilized** for cybersecurity and tech workforce development
- 10 monthly mock interviews and listening sessions with partners like **Boeing, Centene, and Verizon**

EQUITY & COMMUNITY OUTREACH

- **900+** students reached through St. Louis Public Schools
- 40 candidates trained with **Urban League of St. Louis**
- Expanded access to rural communities through **Fort Leonard Wood**

Future Plans & Innovation

MO CYBER READY SOC NETWORK


- Roadmap to connect cyber labs into a **24/7 SOC network**
- Supporting small to **mid-sized businesses** and **rural communities** lacking security resources
- Aligned with the **State of Missouri CISO** for long-term sustainability

THOUGHT LEADERSHIP & SCALING

- Developed a comprehensive **white paper** on "Cyber Readiness" and workforce strategy for the national **NICE community**
- Scaling training models from the **Urban League** and **Fort Leonard Wood** to underserved regions statewide
- Continuing to engage over **100+ employers** on the ROI of non-traditional pathways and skills-based hiring models.

SUSTAINABILITY & REGIONAL LEADERSHIP

- Positioning **Missouri** as a **premier model** for connecting workforce development, cyber labs, and public-private collaboration.
- Collective impact group continuing statewide **collaboration beyond the grant cycle**

An aerial night view of a city, likely New York City, showing a dense urban landscape with numerous skyscrapers and a prominent elevated transit line (likely the Port Authority Bus Terminal or a similar transit hub) running through the center. The image is overlaid with a network of white lines and circular nodes, suggesting connectivity or data flow. Several white location pin icons are scattered across the scene, highlighting specific points of interest. The overall color palette is dominated by blues and greys, with bright white light trails from the transit line and city lights providing contrast.

REGION:
NORTHEAST

Building Maine's Cyber Workforce Through Regional Pathways

Led by the University of Maine at Augusta (UMA) / Dr. Henry Felch, Principal Investigator



Impacting the State of Maine—Focusing on Rural Communities & Dispersed Critical Infrastructure

The Regional Challenge

- Maine's rugged coastline and vast rural regions increase cyber vulnerabilities.
- Acute shortage of skilled workforce for Operational Technology (OT) and Industrial Control Systems (ICS) security-especially in rural and underserved communities.

Key Stakeholders

Maine Cybersecurity Alliance, including:

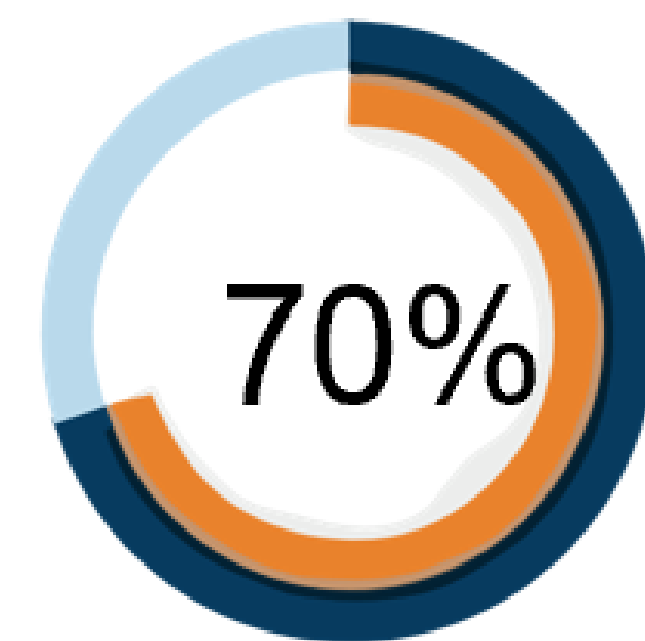
- Critical infrastructure: Greater Augusta Utility District
- Government: Maine National Guard
- Education: K – 12 and Maine's Technical Schools

Audience

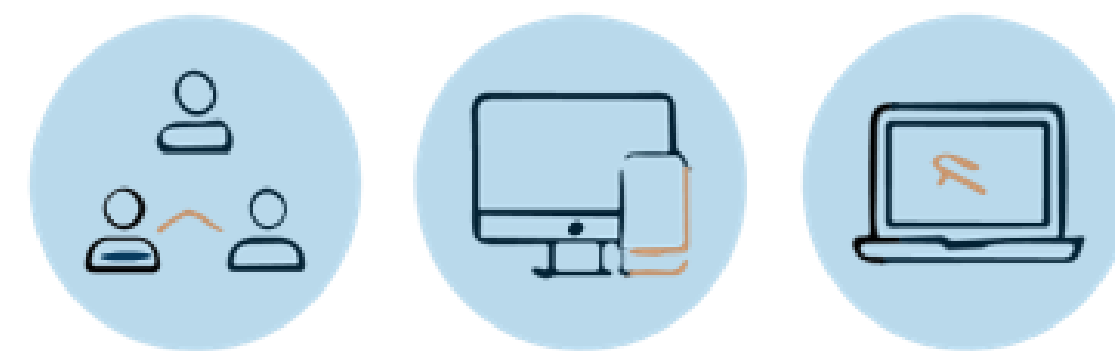
- Veterans and non-traditional Learners from rural areas

Program Goals

- Train 40-60 individuals for critical infrastructure cyber roles:
 - Bootcamp Style with Certification Prep
- Launch registered apprenticeships
- Summer Middle & High School Cyber Security Camp



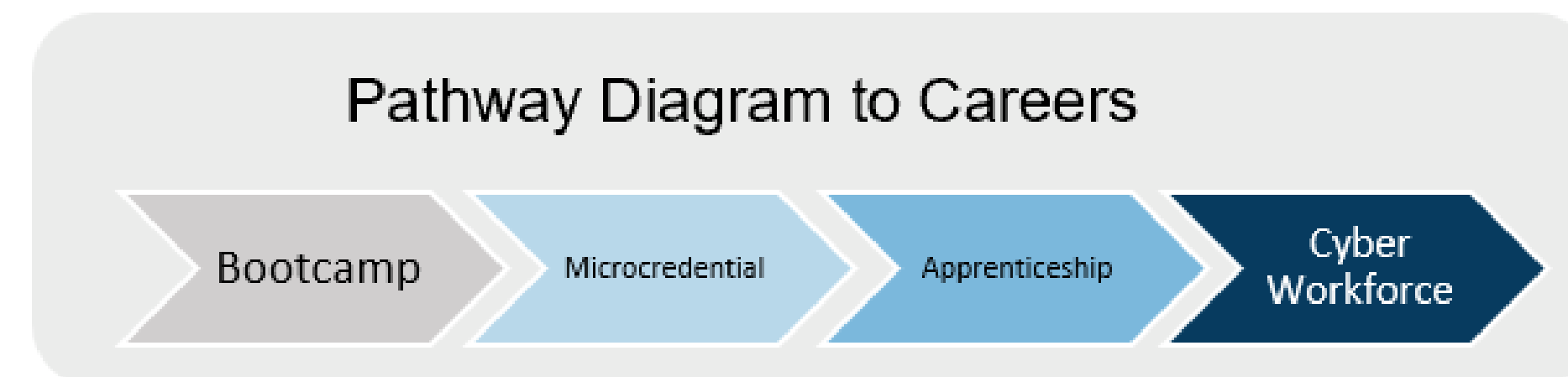
job placement for participants within 6 months.



Stackable Microcredentials in OT/ICS for Maine's Workforce

How the Effort Utilizes the NICE Framework

- Curriculum targets 8 high-demand NICE 2.0 work roles (e.g., Defense Cyber Security, OT Cyber Security Engineering, Incident Response)
- Promotes career discovery
- Integrates hands-on simulations
- Modernizes talent management for long-term workforce growth



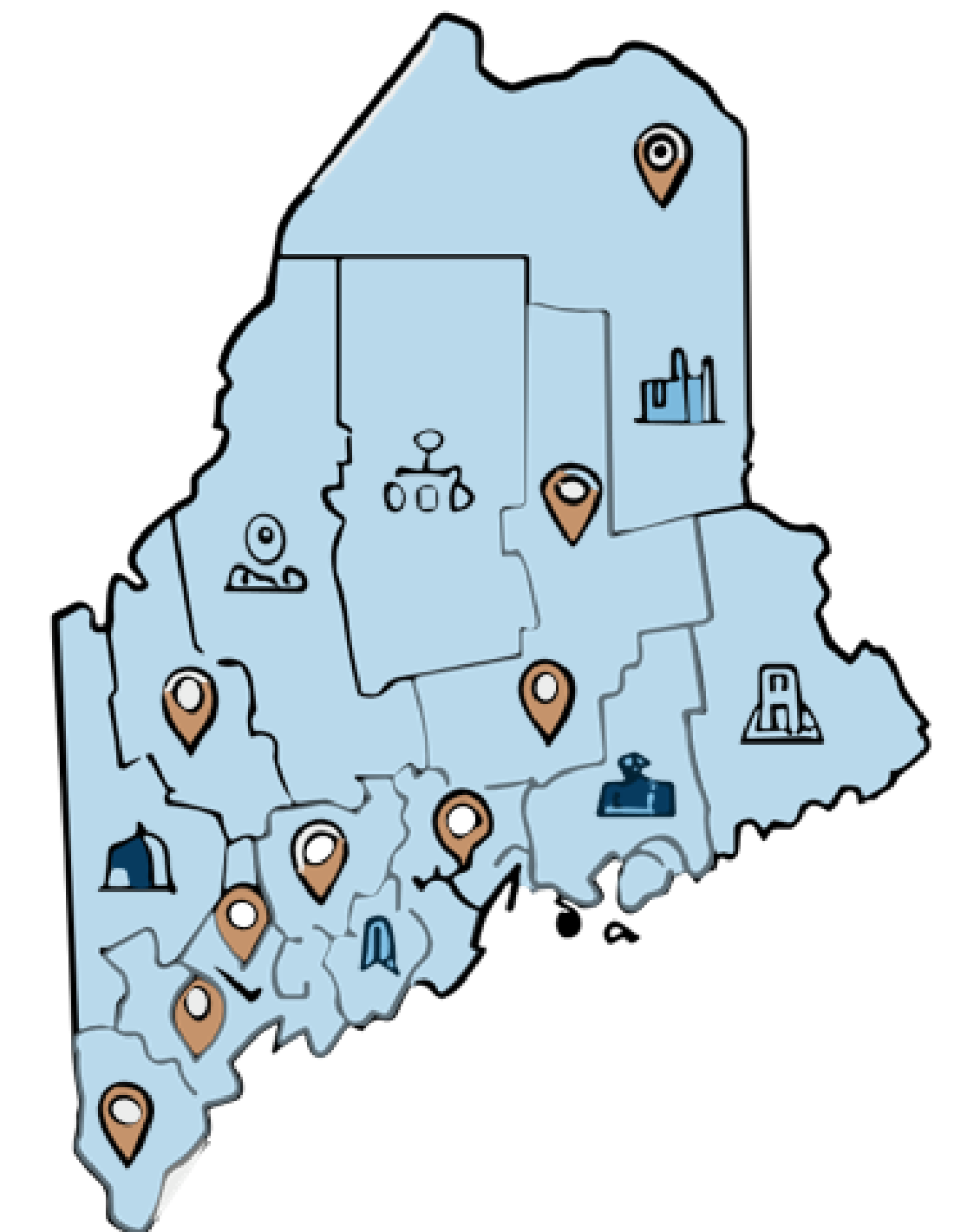
Stackable Microcredentials Create Multiple Onramps for Maine's Workforce

Key Achievements to Date

- Project Manger hired
- Statewide Workforce Needs GAP Analysis Report completed
- Microcredentials finalized
- Expanded K – 12 outreach
- Established relationship with Maine Department of Labor apprenticeship program

Upcoming Goals

- Expanding K – 12 dual enrollment in Cyber Security through Early College opportunities
- Prep for annual UMA Cyber Conference
- Disseminate insights through case studies and presentation at Regional or National Conference



Collaborative network across Maine's rural and critical infrastructure landscape



regional alliances and multistakeholder partnerships

Scan for program details or contact: umacyber@maine.edu



SCAN ME

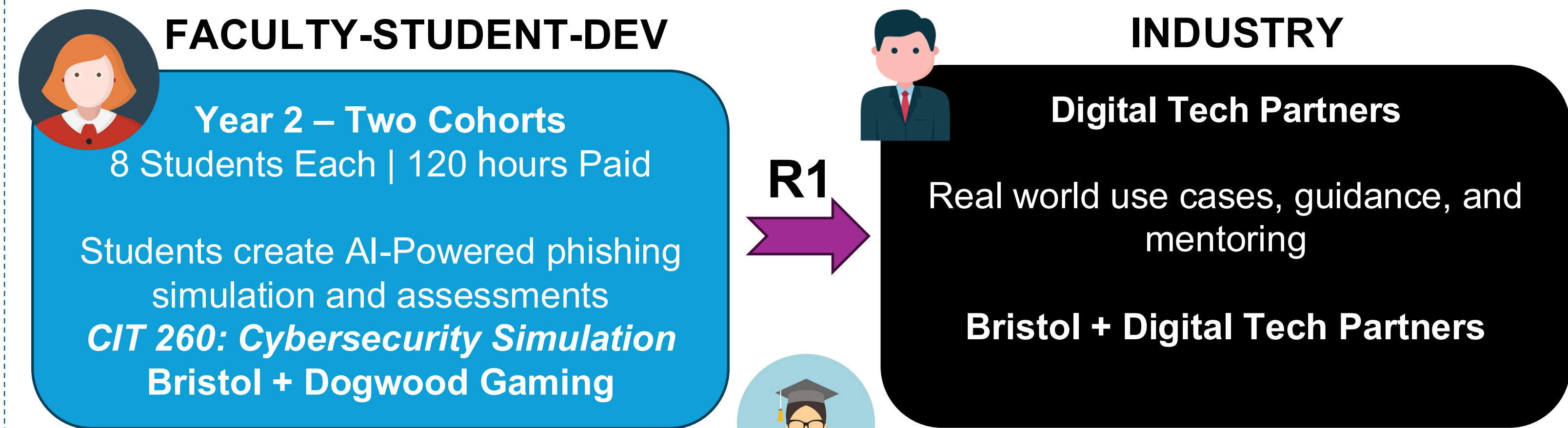
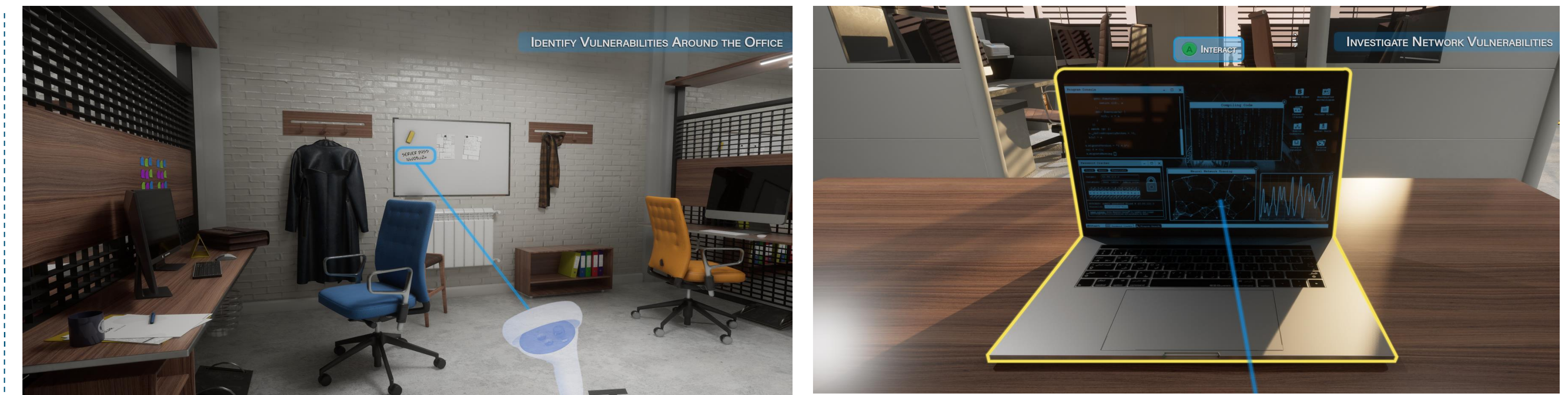
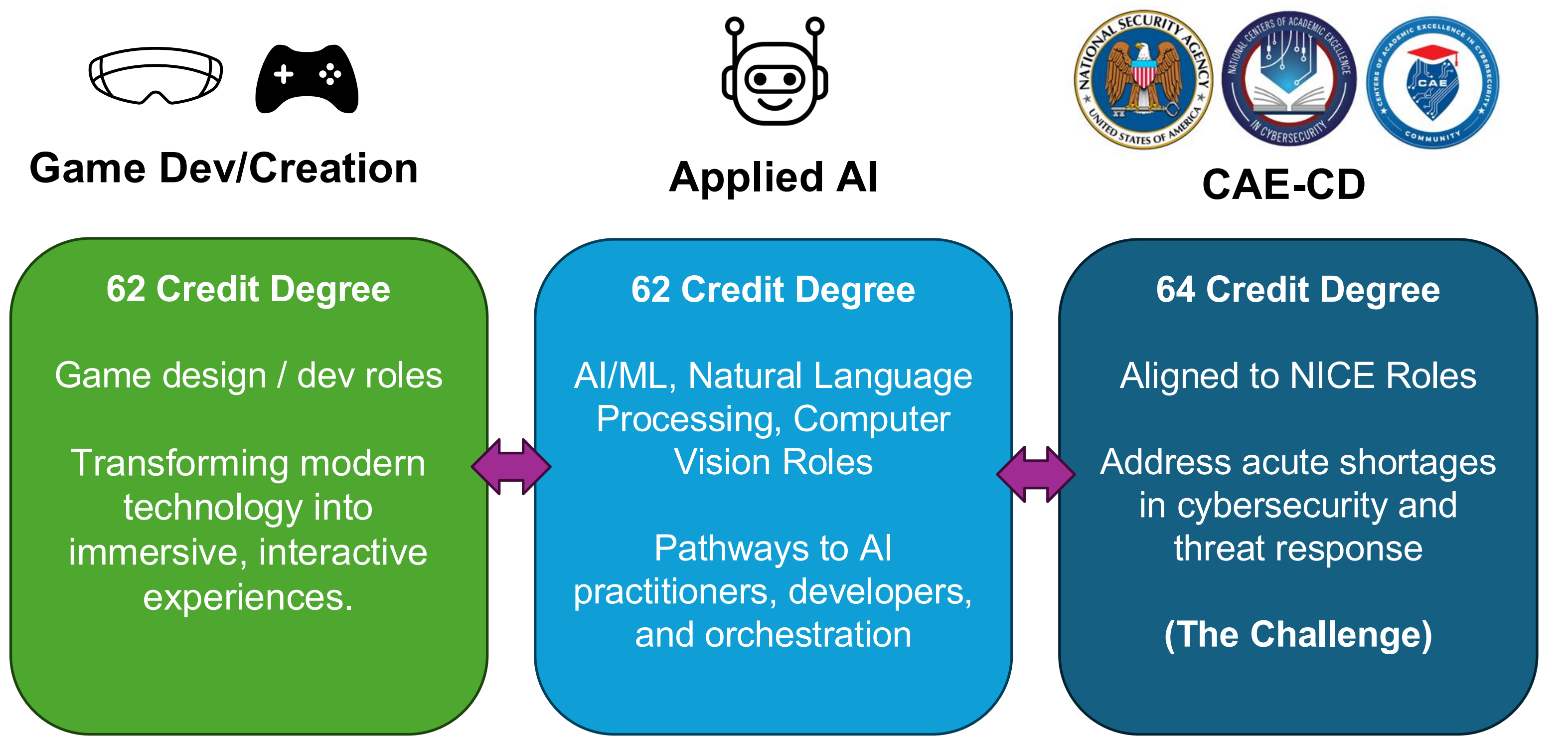
Preparing the Cyber-AI Workforce: The Southeastern Massachusetts Innovation Pathway

Led by Lisa Patacchiola (PI) and Steven Frechette (Co-PI) of Bristol Community College

Southeastern Massachusetts / Fall River, MA Region

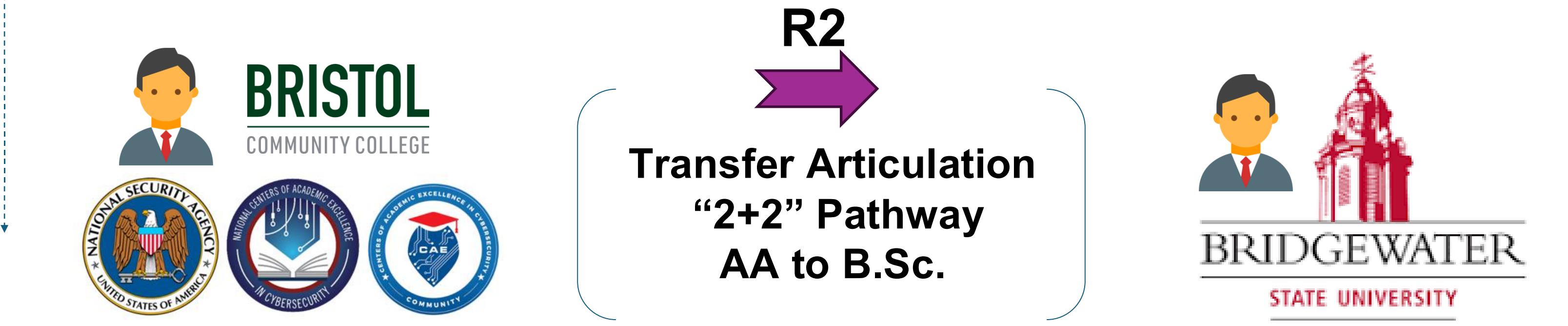
Year One


Year Two



The Innovation (RAMPS)
Establishing a “2+2” academic-career pipeline integrating AI, VR, and Cybersecurity. Internships with industry partners.

The Multi-Stakeholder Partnership
Bristol (NSA CAE-CD) * Bridgewater State University (4-year Transfer)
Digital Tech Partners (Employer) – Dogwood Gaming (VR)



An aerial night view of a city, likely New York City, showing a dense urban landscape with numerous skyscrapers and a prominent elevated transit line (likely the PATH train) running through the center. The image is overlaid with a network of white lines and circular nodes, suggesting connectivity or data flow. Several white location pin icons are scattered across the scene. Light trails from the transit line and surrounding traffic create a sense of movement and activity. The overall color palette is dominated by blues and greys, with white highlights from the lights and network lines.

REGION:
MIDATLANTIC

Q-READY: DEVELOPING THE DMV'S QUANTUM-READY CYBERSECURITY WORKFORCE

Presented by:¹



Impacting the Delaware-Maryland-Virginia (DMV) region

Overview: This first-of-its-kind program equips undergraduate students to address post-quantum threats in cybersecurity. It provides training and experiential learning for students exploring careers in quantum cryptography, post-quantum cryptography, and related pathways.

Key stakeholders



Program components

- Multi-week training in quantum and cybersecurity
- Mentor-led research or internships with companies
- Professional development and guest speakers for exposure to career pathways

Target audience

- Undergraduate & community college students
- National reach with regional emphasis on the DMV area

Key findings²

- 60% increase in technical skills in quantum cryptography³
- Increased confidence in quantum skills and in awareness of quantum pathways



(1) Formerly known as The Coding School

(2) From 2 years of the Early Quantum Career Immersion in both the DMV and the New York City area

(3) From 19.8% pre-program to 81.9% post-program

Development of hands-on labs for cybersecurity training of critical infrastructure employees

Led by: Michail Maniatakos,
Professor of Electrical and
Computer Engineering,
New York University

Impacting the New York Metropolitan Area

Objectives

- **Develop self-guided hands-on labs:** Allows students/professionals/critical infrastructure operators to understand all the abstraction layers involved in a cyber security attack, from the hardware to the process
- **Develop community website:** A centralized resource including the labs, videos, and incident response exercises. It will allow the community to add resources as well
- **Outreach:** Approach universities, companies, and critical infrastructure operators to educate them about the labs and the website.

Community Website

The screenshot shows the website layout with sections for Videos, Exercises, News, and Labs. The URL **otsec-hub.com** is prominently displayed in the center.

Labs

<h4>Lab 1</h4> <p>Objective: Learn what is a process</p>	<h4>Lab 2</h4> <p>Objective: Learn how to program a PLC</p>
<h4>Lab 3</h4> <p>Objective: Learn how to program an HMI</p>	<h4>Lab 4</h4> <p>Objective: Learn what is an industrial protocol</p>
<h4>Lab 5</h4> <p>Objective: Learn how to dissect packets</p>	<h4>Lab 6</h4> <p>Objective: Understand process-aware attacks</p>

Outreach

An OT Security competition was developed and delivered during CSAW 2025. The full description can be found at the website <https://www.csaw.io/ot-security-competition>

The collage includes a banner for the 'Operational Technology Security Competition' at CSAW'25, a poster titled 'Elevate Your Expertise: Announcing the Inaugural OT-Sec Competition!', and several photos of participants at the event.

Rank	Team	Score	Question 1	Question 2	Question 3	Question 4	Question 5
1	Team 1	480	✓	✓	✓	✓	✓
2	Team 2	460	✓	✓	✓	✓	✓
3	Team 3	295	✓	✓	✓	✓	✓
4	Team 4	260	✓	✓	✓	✓	✓
5	Team 5	195	✓	✓	✓	✓	✓
6	Team 6	140	✓	✓	✓	✓	✓

Summary statistics:
 12 users registered
 8 teams registered
 21 IP addresses
 700 total possible points
 41 challenges
 Question 9 has the most solves with 8 solves
 Question 6 has the least solves with 1 solve

Next Steps

- **Develop incentives for community hub usage**
 - Points for comments / resource upload
 - Usage badges / gamification
 - Development of a microcertificate
 - Can show up as LinkedIn certification
- **Reach more critical infrastructure operators**
 - Hard to find contacts
- **Improve community website**
 - Currently feels "heavy", dynamic performance also not state-of-the-art

Growing Cybersecurity Workforce Pipeline at Lehman College (CUNY)

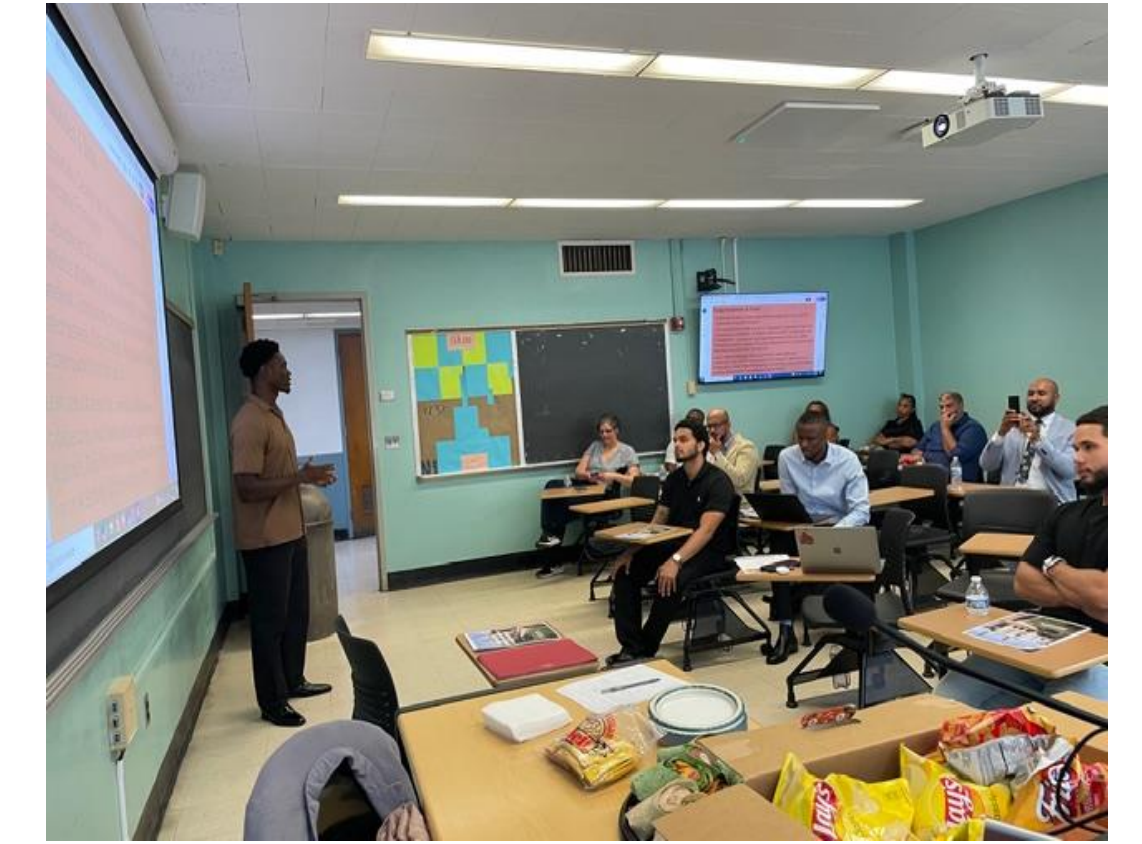
- Kimberly Kendall (Interim Dean, School of Continuing Professional Studies., Lehman College CUNY)
- Swathy Gopal (Program Coordinator, Computer Science Dept. , Lehman College CUNY)
- Geoffrey Kelly (Faculty Mentor, Computer Science Dept., Lehman College CUNY)

Bridge Training, Risk Assessments, and Internships – Impacting the Bronx, New York.



Program Overview:

The Growing Cybersecurity Grant supports workforce development by preparing students for real-world cybersecurity roles through training, risk assessments, and internships. The program integrates technical instruction with professional development and hands-on client engagement.



PROGRAM STRUCTURE

PROGRAM MODEL

- Bridge Training (Cybersecurity fundamentals + professional skills)
- Risk Assessments (students act as consultants for local businesses)
- Internship Pipeline (top performers transition into internships)

STUDENT ENGAGEMENT & TRAINING

- Professional development (communication, teamwork, client interaction)
- Technical training led by cybersecurity faculty
- Resume + career readiness workshops

OUTCOMES

- **Summer 2025:**
 - 35 students enrolled
 - 9 interns placed
 - 4 completed full cycle internship
- **Winter 2026:**
 - 12 students completed risk assessments
 - 3 advanced to internships

IMPACT ON BUSINESSES

- Students conduct real cybersecurity risk assessments
- Small businesses receive actionable security recommendations
- Builds local workforce + strengthens business resilience

Key Insights



- Risk assessments added to expand access beyond internships
- Group-based model improved reliability and continuity
- Combines technical + workforce development (not just classroom learning)



Bridging the Gap: Comprehensive Cybersecurity and Career Readiness Training for Critical Infrastructure in the NJ/NY Region

Jia Mi (PI), Ying Wang
Stevens Institute of Technology

Qianqian Zhang
Rowan University

Sean Ryan, Xiyang Zhang
American Bureau of Shipping

Please reach out to Jia Mi (jmi5@stevens.edu) for any questions.

The NJ/NY regional critical infrastructures and workforce development gap



Fig.1 Critical infrastructures between NJ & NY metropolitan area

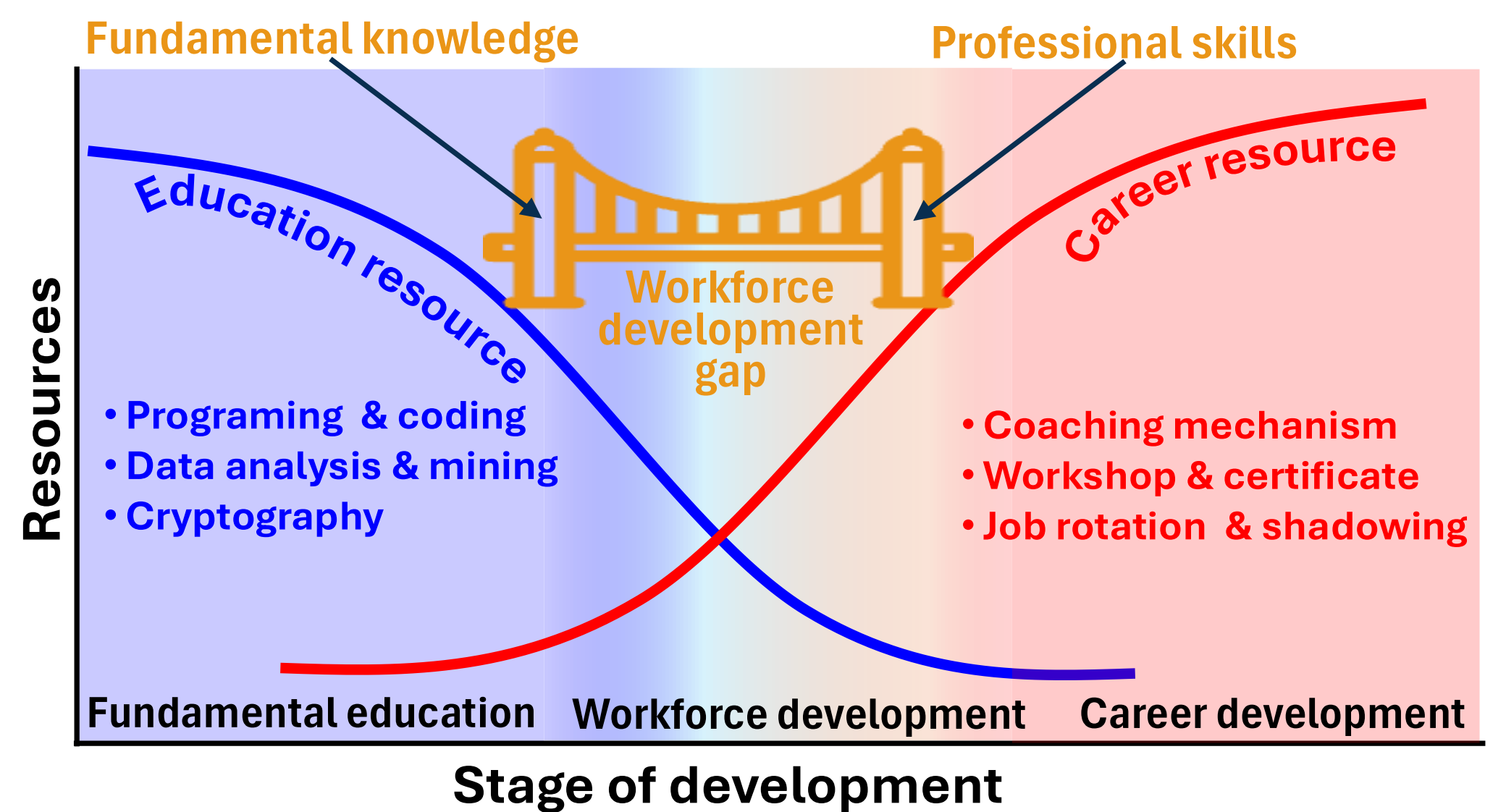


Fig. 2 Bridging the gap of workforce development

Vision, Approach & Innovations of This NIST RAMPS Training Program

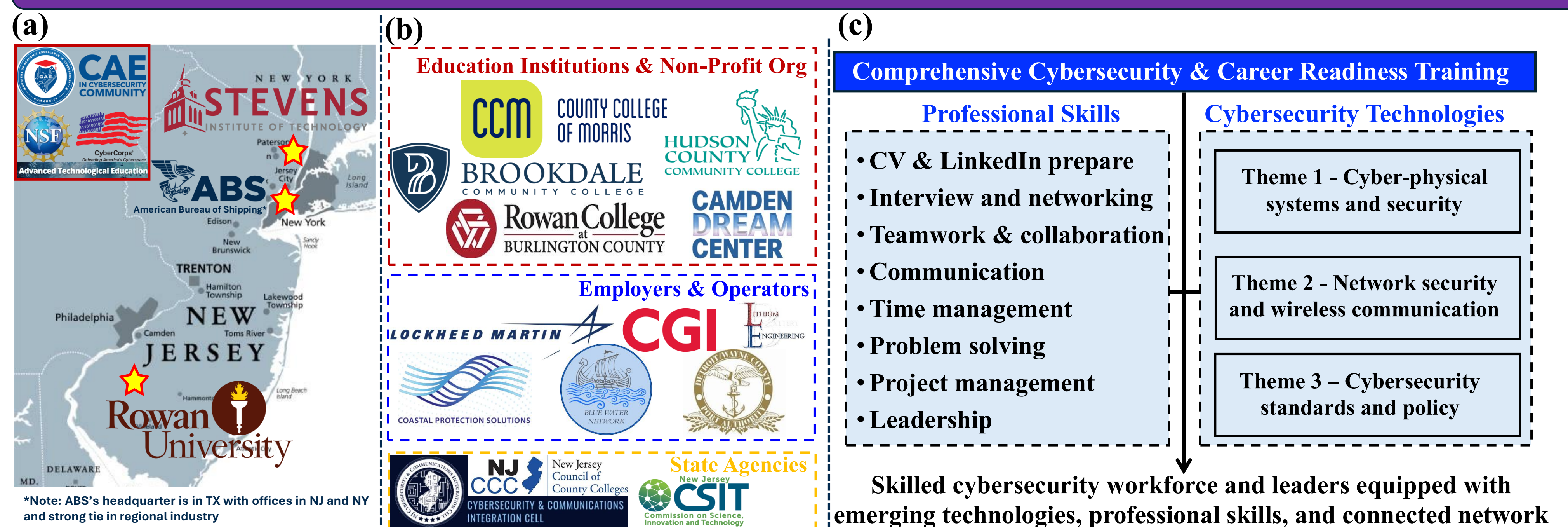


Fig.3 (a). Team. (b). Multi-stakeholders. (c) Comprehensive cybersecurity & career readiness training

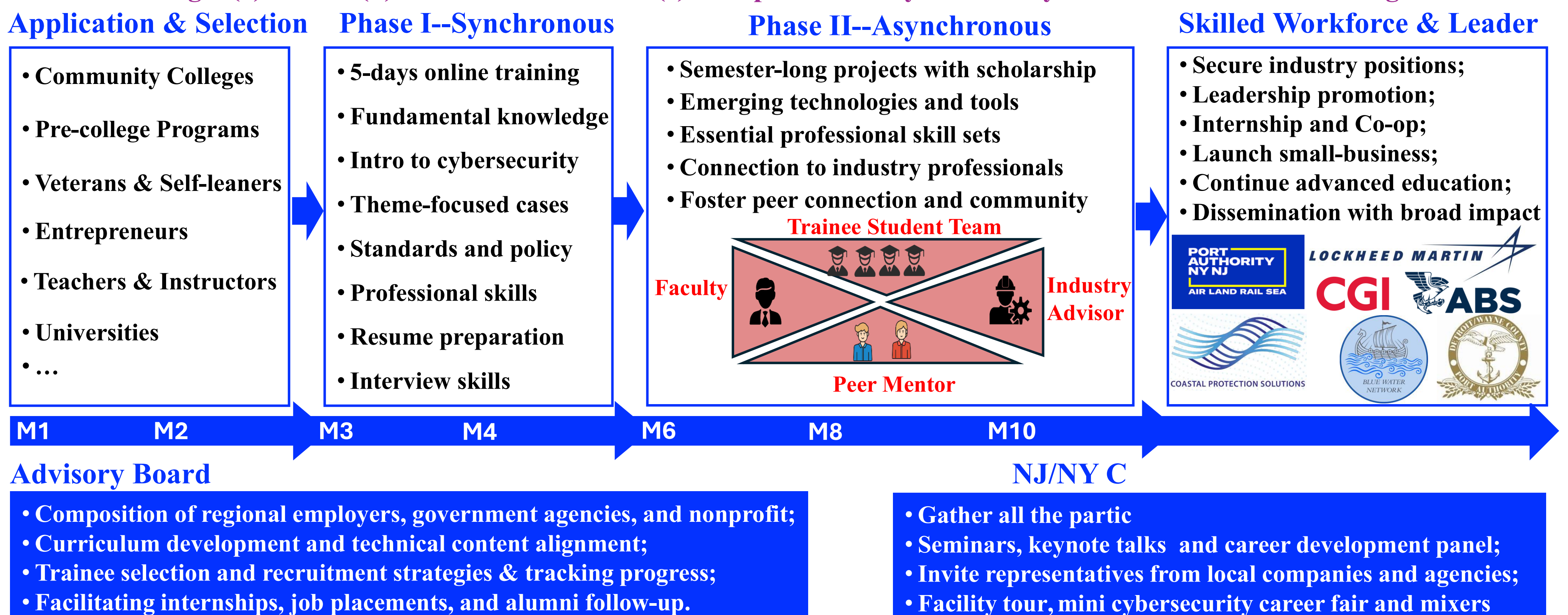


Fig.4 Training activities and timeline

This work was performed under the following financial assistance award 70NANB25H169 from U.S. Department of Commerce, National Institute of Standards and Technology.



CyberForge Philadelphia

A Regional Alliance for Cybersecurity Education and Training

CyberForge is led by the FirstHand™ team at the University City Science Center

Impacting the Greater Philadelphia Region through Multi-Sector Collaboration

The Challenge

Philadelphia's 8,000+ tech firms generate \$35.9B in economic activity (CompTIA, 2024).

Employers increasingly need alternative training pipelines through internships, pre-apprenticeships, and employer-led programs to meet workforce demand.

7,900+

cybersecurity job openings in Greater Philadelphia

73%

supply demand ratio workforce gap continues to widen (CyberSeek, 2025)



University City Science Center launched its STEM training program FirstHand™ in 2014 to connect middle and high school students to learning opportunities and workforce pathways. Students benefit from industry-relevant, hands-on STEM curricula ranging from materials science and cybersecurity, to synthetic biology and data analytics. All curricula are mentored by industry professionals. The Science Center has worked with over 3,000 students and collaborated with more than 100 schools and over 500 industry experts.

The CyberForge program will build on this work and will offer a NICE Framework-Aligned cybersecurity curriculum for 64 high school students and will provide a pathway to continuing education, paid internships, and pre-apprenticeships for those students.

Multi-Sector Partnership

- **University City Science Center (Lead):** 60+ yrs regional innovation and 12 years leading highly acclaimed STEM program
- **Naval Surface Warfare Center, Philadelphia Division (NSWCPD) and Naval Information Warfare Center (NIWC):** Expert cybersecurity mentors and curriculum development support
- **Drexel University:** Offers Digital Development Camp and will reserve spots for CyberForge participants
- **PECO:** Industry internship host; employer partner and host of career panels and convenings
- **Philadelphia Academies Inc. (PAI):** Recruitment partner for registered pre-apprenticeship pathway

1 NICE Framework-Aligned Curriculum

8-week after-school high school program (NIST Framework Core Competency areas: access controls, communications security, cryptography, cyber resiliency, and development, security, and operations). Critical workplace skills also emphasized.

2 Career Exposure & Mentorship

Career exposure through career development discussions and mentorship from industry partners throughout curriculum.

3 Continuing Education

Continuing education opportunities to be provided: certificates, summer programs, and/or college coursework.

4 Paid Internships & Pre-Apprenticeships

Post-program participation, paid cybersecurity internships and pre-apprenticeships available specifically for students.

Projected Program Impact

64

students complete NICE framework-aligned curriculum

8

continuing education & internship partners

200

hours of direct student mentorship

12

students in internship or continuing education

Get to know FirstHand™

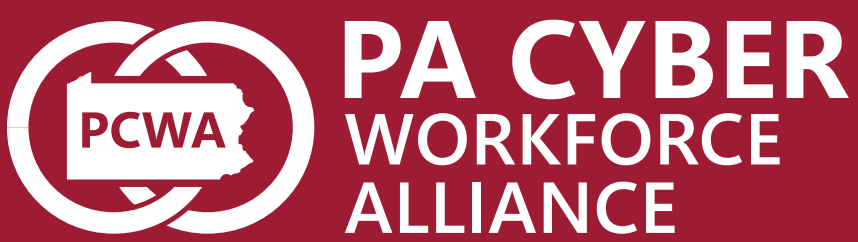
For more information visit sciencecenter.org/firsthand or scan the QR code



PA CYBER WORKFORCE ALLIANCE (PCWA)

Led by Indiana University of Pennsylvania (IUP)

Impacting the Pennsylvania Cybersecurity Workforce



ABOUT US

The PA Cyber Workforce Alliance (PCWA) is made up of 12 partners working together to advance cyber education in the region. Partners include: one four-year university, two community colleges, one technical education center, three K-12 school districts, and five cybersecurity companies. Visit our website using the QR code below for more information on partners, events, and activities.

PROJECT OBJECTIVES

- Increase the number of students obtaining industry-recognized cyber certifications.
- Provide unique opportunities for students to explore cybersecurity career pathways.
- Engage K-12 students in the cybersecurity field.
- Assist partners with adoption of the NICE Framework.

PROJECT INITIATIVES

Providing certification-prep workshops and exam vouchers, offering paid internships, hosting cyber competitions, collecting and analyzing data, and developing NICE Framework guidelines and implementation support.

ACCOMPLISHMENTS

Since the start of the project, we've accomplished the following:

- Subawards issued.
- Three partner meetings held.
- Website launched.
- Partner survey developed and distributed.
- Internship program established with one partner.
- K-12 cyber competition offered.
- See samples of marketing documents below.



High School CTF Flyer



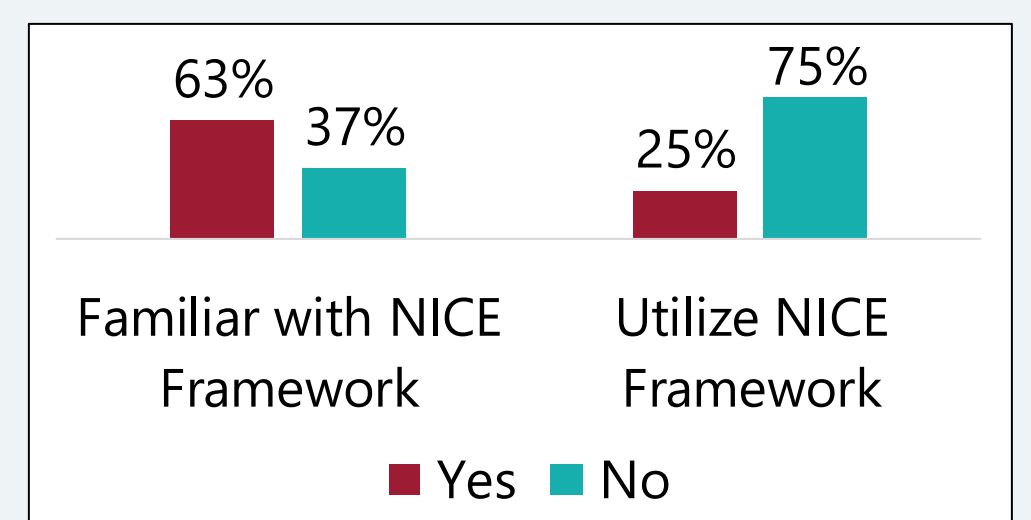
Internship Flyer

INSIGHTS FROM PARTNER SURVEY

A survey was distributed to industry partners to collect data on workforce needs. Responses were collected between December 2025 and March 2026. Insights gained are below.

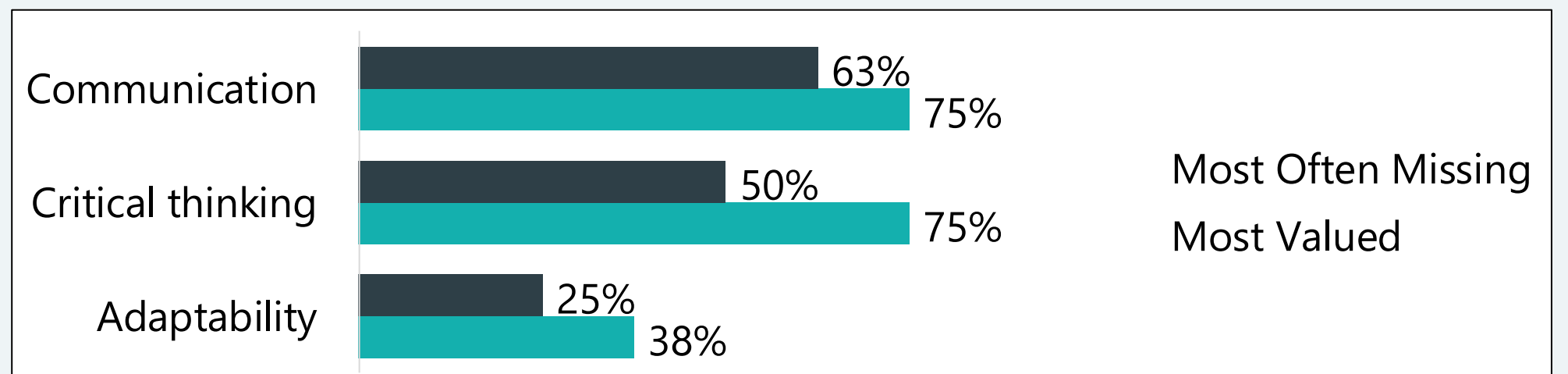
Knowledge and Use of NICE Framework

63% of respondents are familiar with the Framework, but only 25% use it. Uses include identifying skills gaps and aligning roles with standard terminology.



Soft Skills Gap

Communication and critical thinking are the most valued soft skills and the skills most often missing in new hires.



Important Factors in Hiring

Respondents ranked hiring factors in order of importance from 1-5. While **certifications are frequently discussed as important**, survey responses indicate they are a **lower priority** in actual hiring decisions.

Hiring Factor	Avg. Rank
Technical Skills	1.8
Work Experience	2.4
Soft Skills	2.8
Formal Education	4.1
Professional Certifications	4.1

CHALLENGES

- Participation in the partner industry survey was limited. Data collection will continue to gather more feedback and provide better insight into workforce needs.
- Internship positions are scarcer than originally anticipated. Work is underway to identify additional opportunities.



LEARN MORE

Visit our website at www.iup.edu/pcwa/ or contact us at pcwa-ramps@iup.edu.

Howard Community College's Central Maryland Cyber Regional Alliance



Impacting the Central Maryland Region



Howard Community College Overview

- NSA/DHS-designated Center for Academic Excellence in Cybersecurity.
- Serves **23,000+** learners annually from **105+** countries.

NIST RAMPS Grant Goals

- Expand registered cybersecurity apprenticeships by engaging more employers.
- Establish a Cyber Ready Clinic to provide hands-on, real-world experience.
- Develop a regional cybersecurity talent pipeline.

Why the Model Matters

- Bridges the gap between classroom learning and employer expectations.
- Provides real client-based cybersecurity experience.

Key Outcomes and Successes

- Expanded workforce ecosystem partnerships (Fort Meade Alliance, TEDCO, AAWDC).
- Anne Arundel Community College joined as training provider in Spring 2025.
- Cyber Ready Clinic internships show strong completion and readiness results.

Lessons Learned

- Employer outreach is increasingly competitive.
- Strong need for sustainable entry-level cybersecurity pipelines.
- Apprenticeship and clinic model reduces hiring risk for employers.

Howard Community College Central Maryland Cyber Regional Alliance



IT Registered Apprenticeship Program

- Launched in **Spring 2020** with AT&T.
- Roles include IT Field Support, Network Support, ISSE, and Linux Administrator.

Cyber Ready Clinic Internship Program

- Launched **Spring 2025** in partnership with the Cyber Ready Clinic (CRC).
- Students assess cybersecurity vulnerabilities for nonprofits and small businesses.



regional alliances and
multistakeholder partnerships

MODERNIZING TALENT MANAGEMENT IN VIRGINIA, MARYLAND AND D.C.

Led by Dr. A. Schuler Scott, Integrated Security Education and Research Center, Virginia Tech

Impacting Southwest and North Virginia, and then Virginia, Maryland and D.C.

The Modernizing Talent Management in Virginia, Maryland and D.C. (MTM VMD) project was created to:

- **Connect organizations** with different approaches and strategies who share a vision: let's get people into jobs.
- **Create routes** for employers and people looking for jobs (job candidates) into understanding:
 - The **cybersecurity workforce**.
 - The **cybersecurity skills gap**, and how to navigate it.



OUR MISSION

To connect entry level* talent to industry leaders and employers, promote career discovery, and foster resilience in the cybersecurity field.

***Entry level** = **early career** (e.g., graduates) or **career changers** (new to the field but not the workforce).

NEURODIVERSITY

Efficient and effective hiring taps into talent.

Neurodiversity = natural variations in how people think and act.

Neurodivergent candidates are overlooked despite their skills and experience offering a competitive advantage [1].

Workforce

Skills gap

WHAT WE FOUND OUT

Security is cross-functional

Cybersecurity is Everyone's Job [2] was a NICE/NIST report that described security in terms of different business functions.

Cybersecurity is a team sport!

Security work happens across all business functions. Roles that feed into a cybersecurity career can include:

- ★ Leadership, Planning, and Governance >>
- ★ Sales, Marketing, and Communications >>
- ★ Facilities, Physical Systems, and Operations >>
- ★ Finance and Administration >>
- ★ Human Resources >>
- ★ Legal and Compliance >>
- ★ Information Technology >>

Employers need help hiring Virginia Tech, The Cyber Guild.

We asked organizations about hiring, talent, and business needs:

1. Cybersecurity work is **not just IT** work.
2. Companies want **help navigating hiring** practices:
 - Entry level jobs offer companies information about themselves.
 - Good candidates come from all sorts of places - a wider hiring pool works!



Skills relate to career paths (cyberseek.org)

Cyber Seek is a widely cited resource that offers insights into the field, including skill-based career pathways.

Shifting skill requirements create a talent 'gap' between employers and candidates. [3]

Economic development: finding metrics

Virginia Tech, Roanoke-Blacksburg Technology Council (RBTC).

To explore the local cybersecurity sector, we collaborated with RBTC, a network of technology professionals, businesses, and organizations.

Analysis of workforce data (VA, MD, D.C.) from the JobsEQ platform identified current gaps between job descriptions and local talent.



WHAT WE DID



Career Discovery Event Virginia Tech, The Cyber Guild, Link Consulting.

The event **showcased different roles** (Operations, Governance, Risk and Compliance, and Ethical AI) and **connected candidates to employers** in virtual breakouts.

+ Satellite event in NOVA! DARS, North Virginia.



Map of Skills to Jobs

First steps in creating a skills-based assessment: SFIA skills mapped to jobs.

Business function	Job	SFIA skill list
Leadership, Planning, and Governance	Knowledge Manager	AL01, BN1, RSCH, MRAS, QVAL, RMGT

NICE Framework + SFIA
Cybersecurity + Competency

We have mapped skills to role personas to help employers write job descriptions and assess candidates.

Personas come from different business functions (HR, IT, Operations...).

Skillsets created for different personas.

Goal: Create rubrics for scenario assessment.

Find Your Fit in Cybersecurity Virginia Tech, Link Consulting, Haystack Solutions.

We created a short program to provide professional development for candidates:

- Aptitude and executive function self-assessments.
- Expert webinars and office hours.



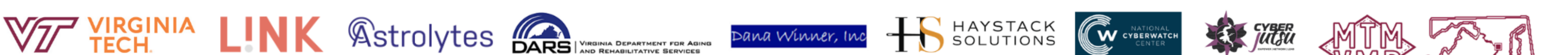
REFERENCES

- [1] Austin, R. D. & Pisano, G. P. (2017). Neurodiversity as a Competitive Advantage. *Harvard Business Review*. Url: <https://hbr.org/2017/05/neurodiversity-as-a-competitive-advantage>
- [2] NICE/NIST. (2018). *Cybersecurity is Everyone's Job*. Url: https://www.nist.gov/system/files/documents/2018/10/15/cybersecurity_is_everyones_job_v1.0.pdf
- [3] CompTIA. (2024). *CyberSeek highlights persistent cybersecurity skills shortage despite hiring stabilization*. Url: <https://www.comptia.org/en-us/about-us/news/press-releases/cyberseek-highlights-persistent-cybersecurity-skills-shortage-despite-hiring-stabilization>

WHAT'S NEXT?

- 🤖 Automate tool for scenario development.
- 📄 Project reporting.
- ➡ Further development and funding.

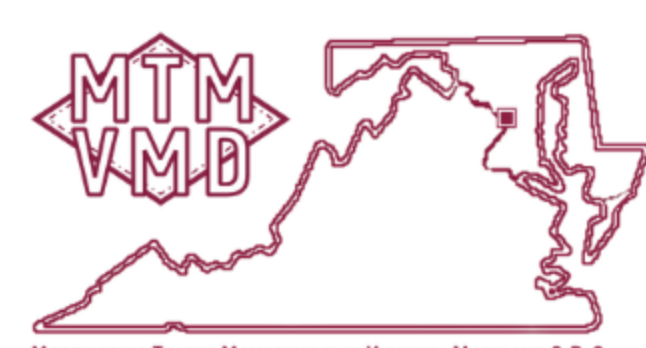
Project partners and contributors



TheCyberGuild



regional alliances and multistakeholder partnerships



<https://linktr.ee/mtmvmd>

Contact: MTM-VMD@vt.edu

The Digital Equity and Workforce Innovation Program (Learners Program)

Led by:
The Metropolitan Washington Council of Governments

Steve Cooper
Margaret Archer
Mainiwaer Jiewulan
Lance Parlier

Impacting Loudoun County, Virginia Residents and Employers in the DMV



A multi-stakeholder education and workforce partnership using mentor-driven, work-based learning with the Loudoun County Department of Information Technology (DIT) to give local residents an opportunity to build long-term careers in technology as paid apprentices and, upon program completion, fully qualified applicants for local technology roles in software engineering, ServiceNow and Agile. With the help of the NIST RAMPS grant, the program added curriculum, mentoring and experiential learning opportunities in cybersecurity to broaden their qualifications.



- 100+ applicants
- 360 minimum hours of Cybersecurity course work
- Mentoring and experiential learning opportunities
 - Weekly course work review and discussion
 - Study groups
 - Small Business Cyber Assessment and CIS Critical Security Controls Implementation Group 1 Implementation
 - County network asset inventory
 - County forms accessibility project
 - County User Acceptance Testing project
- Emphasis on critical thinking and problem solving
- Emphasis on understanding the business and applying their learning to the challenges at hand
- Cyber Expert Guest Speakers and Advisors
- Conference participation –
 - NICE Conference Denver 2025
 - Uniting Women in Cyber
 - GuidePoint Cyber Conference
 - Owl Cyber Defense Conference
 - Cyber Career Fair and Networking
- Certified Scrum Master certifications achieved
- ServiceNow certifications achieved



Future

This program runs until October, 2026
 Participants are pursuing their CompTIA Security+ certifications with a study group and exam prep in 5/2026
 Program expansion to other counties/municipalities continues to be a goal
 Participants are actively seeking employment in Loudoun County and other local employers



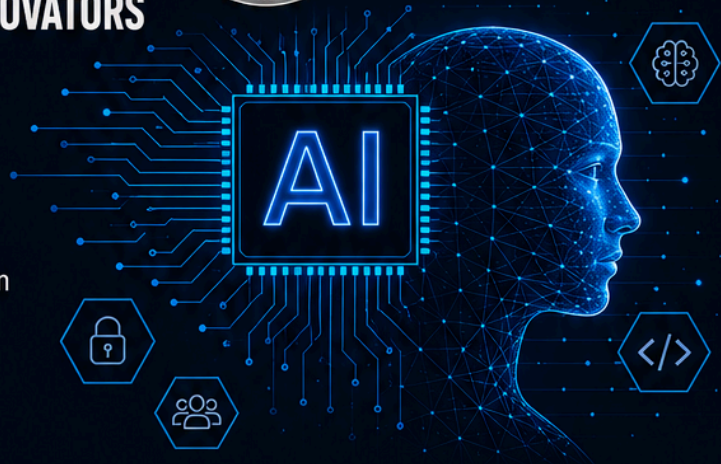
BUILDING THE AI WORKFORCE: EMPOWERING TOMORROW'S INNOVATORS



**CYBER BYTES
FOUNDATION**

IMPACTING THE COMMONWEALTH OF VIRGINIA WORKFORCE REGION

Cyber Bytes Foundation is equipping K-12 learners with the AI knowledge, skills, and real-world experiences they need to succeed in a technology-driven future. Through hands-on learning, career exploration, and employer alignment, we are creating pathways to high-demand AI and cybersecurity careers and strengthening our regional workforce.



KEY METRICS (WHAT WE WILL DO)



500
LEARNERS
K-12

AI LITERACY WORKSHOP

We will engage 500 K-12 learners in AI literacy workshops to build foundational AI knowledge and digital skills.



330
TOTAL LEARNERS
REACHED

AI-THEMED CTF

We will host an AI-themed Capture the Flag (CTF) competition and engage 330 total learners through a fun, competitive, hands-on cybersecurity experience.



20
ANNUAL
WORK-BASED
EXPERIENCES

We will provide 20 annual work-based learning experiences including internships, apprenticeships, and externships aligned to industry needs.

OUR ACTIVITIES



AI LITERACY

We will deliver engaging AI literacy workshops to build understanding of AI fundamentals, ethics, and real-world applications.



CYBER-AI CAREER PATHWAY EXPLORATION PROGRAM

We will introduce students to diverse AI and cybersecurity careers through immersive career exploration experiences.



AFTER-SCHOOL AI LAB

We will provide hands-on AI learning through after-school labs where students experiment, create, and problem-solve with emerging technologies.



AI-THEMED CAPTURE THE FLAG (CTF)

We will host an exciting AI-themed CTF competition to build cyber skills, teamwork, and critical thinking in a real-world context.



EMPLOYER ALIGNMENT & TALENT DEVELOPMENT

We will partner with employers to align skills with workforce needs and develop talent through mentorship, projects, and work-based opportunities.



OUR IMPACT: STRONGER LEARNERS. STRONGER REGION. BRIGHTER FUTURE.

We are building an innovative, inclusive AI workforce pipeline that prepares our community for tomorrow's opportunities—today.



regional alliances and
multistakeholder partnerships

The 3D Cybersecurity Pipeline: Bridging Schools, Higher Education, and Industry

Virginia Space Grant Consortium (VSGC)
 Principal Investigator: Chris Carter, VSGC Director
 Project Coordinator: Dr. Jennifer Penland, VSGC
 STEM Education Specialist

3-Dimensional Approach: Student Internships, Educator Professional Development, Industry Engagement

Impacting the Commonwealth of Virginia - Central and Tidewater Regions

Project Partners:

Virginia Space Grant Consortium
 Virginia Peninsula Community College
 Brightpoint Community College
 Old Dominion University's
 Commonwealth Cyber Initiative –
 Coastal Virginia Node
 Virginia Cyber Range

Companies Hosting Interns:

Analytical Mechanics Associates (AMA)
 RFK Solutionz / RFK Outreach
 SimIS
 Old Dominion University's Information
 Security Office

2025 Cybersecurity Workforce Survey – Top Industry Recommendations

Tailor Curriculum to Practical Skills ▪ Close Gaps in Hard Skills ▪ Build Soft Skills ▪ Industry Collaborations ▪ Continuous Feedback Loops ▪ Emphasize Emerging Technologies ▪ Promote Hands-on Experiential Learning

Teacher Professional Development – Two Workshops for 20 Teachers

Immersive ▪ NICE-aligned Content ▪ Student Assessment ▪ Developing Workforce Skills

NICE Framework Topics

Threat Recognition ▪ Teaching Strategies ▪ Defense Frameworks ▪ Security Mindset

Faculty Feedback and Needs

More Certifications Available (Virginia Cyber Range) ▪ Hands-on Student-Centered Activities ▪ Academic Pathway Support From Industry

Sample Projects Integrated by Educators

Phishing Simulation ▪ Metadata Forensics Study ▪ Cyber Self-Audit

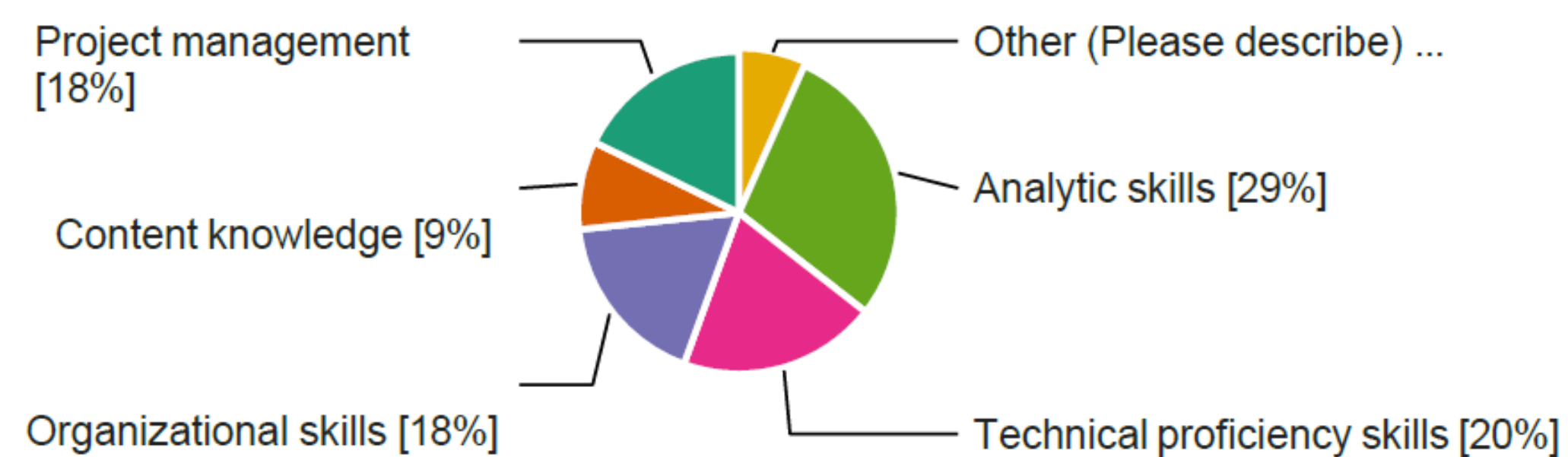
Key Themes for Improving Cybersecurity Teaching

Practical Skills ▪ Industry-Aligned Content ▪ Student-Focused Education

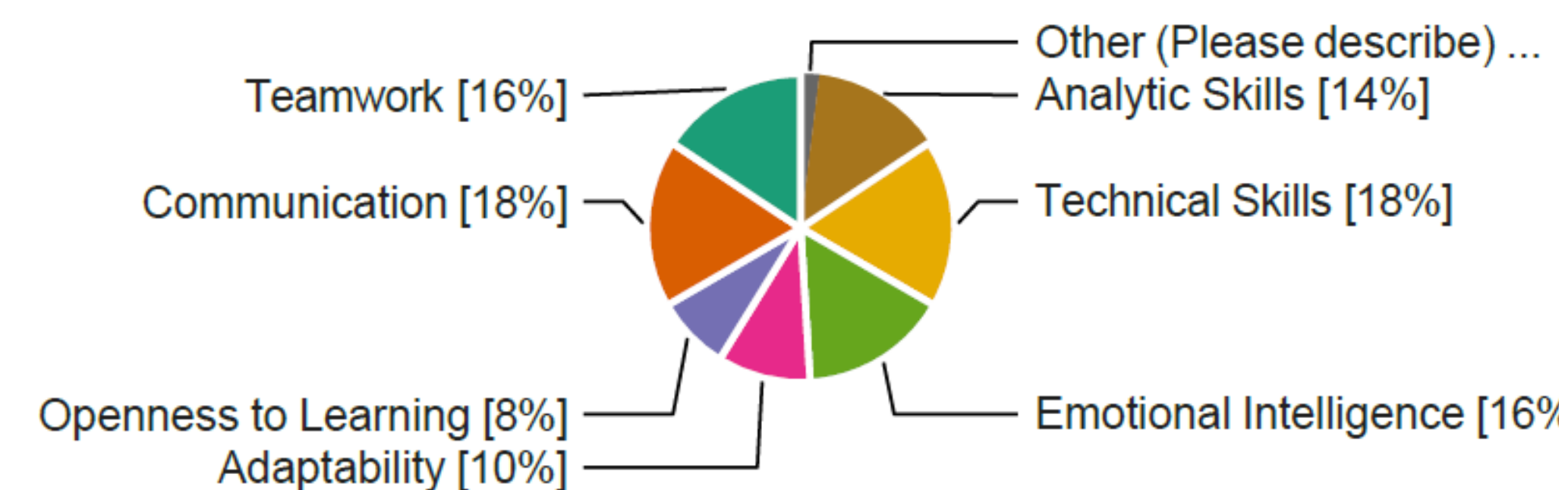


Cybersecurity Workforce Survey - Summary of Responses (n=44)

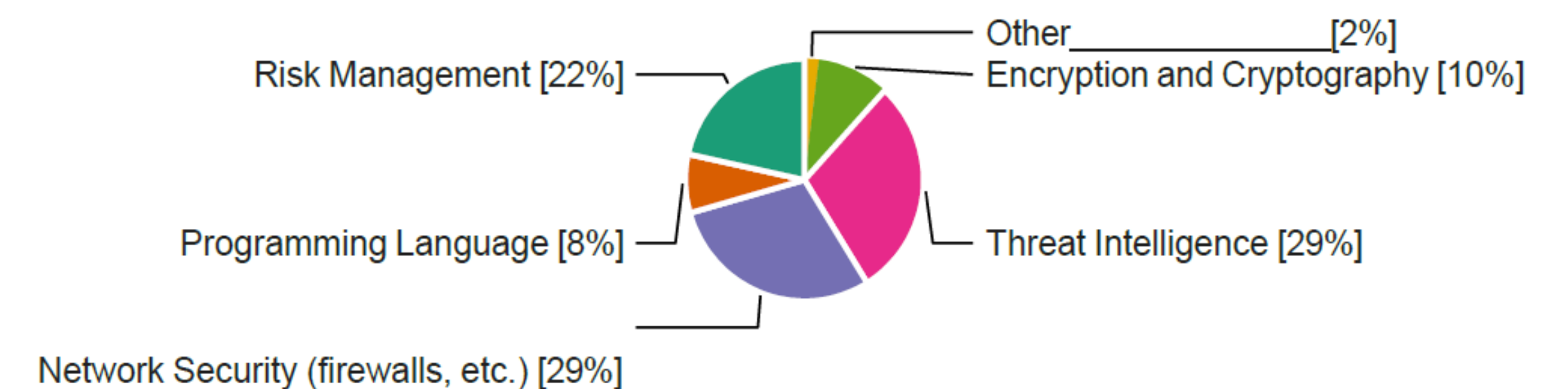
Technical Skills



“Soft” Skills



Skills to be Emphasized in Education





REGION:
SOUTH

Amped Technology Workforce Training - 2026 NICE Conference & Expo

Adventurous Minds
Produce Extraordinary
Dreams, Inc.

Impacting the Louisville, KY region

Who is Amped?: Non-profit organization that uses music, technology, and entrepreneurship to build wealth

Project Purpose: Help low-income adults from low-income communities begin their IT certification journey. Once on the pathway, provide concierge-level connections to entry-level professional and technical positions as well as continuing education in IT, including cybersecurity workforce credentialing

Program Delivery Model: Immersive cohort-style classes. Paid training for 12 weeks plus pre-work and post-training support and incentives

NICE Framework Integration: Use the national NICE Workforce Framework for cybersecurity to ensure that the skills taught match standardized industry roles



Cybersecurity Workforce Programs

Program Successes Since RAMPS Began:

- 4 cohorts (a 5th underway)
- 88 students trained
- 71 students completed the course
- 109 tech exams passed and 66 full certifications received (CompTIA A+, Network+, Security+, Tech+ and AZ900)
- 31 new professional/technical jobs or continuing IT education students

Key Ecosystem Highlights:

- 22 employers have hired our graduates, hosted employer field trips, and/or served as guest speakers
- Articulation agreement in place with Jefferson Comm & Technical College, Amped A+ Cert = 4 hrs college credit

Cybersecurity Spotlight:

- Memorandum of Understanding in place with University of Louisville's Cybersecurity Workforce Credentialing Program
- 11 Amped graduates have enrolled in this credentialing program with 30 modules completed to date



Southeastern Cyber Workforce Alliance

Led by SANS Institute, Mission Programs & Partnerships
Max Shuftan, Rushmi Hasham, Monisha Bush, and Kajal Shelat

Program Reach

Virginia, West Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida, Louisiana, Arkansas, Tennessee, and the District of Columbia

15+

Cross sector partners

39

Career Changers Trained in 2025

43+

GIAC Certifications Earned

NICE Framework Alignment

SECWA aligns its training to the NICE Workforce Framework for Cybersecurity (NIST SP 800-181) by mapping instruction to defined Work Roles and associated KSAs. Participants are prepared for entry-level NICE Work Roles such as Cyber Defense Analyst (PR-CDA-001), Cyber Defense Incident Responder (PR-CIR-001), and Cyber Defense Infrastructure Support Specialist (OM-INF-001).

From Opportunity to Employment



Jamal W. started in fitness and film, leading productions and managing teams with no prior cybersecurity experience. He entered the SECWA program, where he built foundational skills and earned GIAC certification.

After strong performance in the Cyber Foundations stage of SECWA, he advanced into the SANS.edu ACS program, where he developed hands-on skills in detection and incident response.

Today, Jamal works as a Cyber Security Analyst, proving that the right opportunity and training can turn potential into a cybersecurity career.

Hands-on AI Security Skills for Real-World Cyber Battles

SEC275

Builds core computing, networking, and security fundamentals with hands-on system setup and safe operations.

SEC401

Develops skills in threat detection, system hardening, and identifying vulnerabilities across networks and systems.

SEC504

Covers real-world incident response and threat hunting, using AI-driven analysis to investigate attacks and counter modern adversary techniques.

Elective

Offers a selection of advanced, specialized courses to build skills aligned to career goals and emerging threats.

What's Next for the Program

The 2026 cohort is underway with 25 students beginning AIS247 and continuing into SEC275, establishing a foundation for future skill development.

Scalability

Replicable NICE-aligned cohort model deployable across regions through partner networks.



U.S. Cyber Academy Initiative
Aligned to NICE Strategic Plan



SANS TECHNOLOGY INSTITUTE



regional alliances and multistakeholder partnerships



MiamiCyber2Work

Cybersecurity Workforce Initiative – Building Pathways

Florida International University (FIU), Miami, Florida

Dr. Alexander Perez-Pons

Dr. Himanshu Upadhyay

Impacting the Miami, South Florida Region

A multistakeholder workforce initiative to address the growing cybersecurity talent gap in South Florida.

- The program establishes structured, employer aligned pathways that prepare undergraduate students for cybersecurity internships and long term employment.
- Bridges the gap between employer needs and student capabilities through coordinated coursework, industry mentorship, professional certification preparation, and experiential learning.

Key Stakeholders

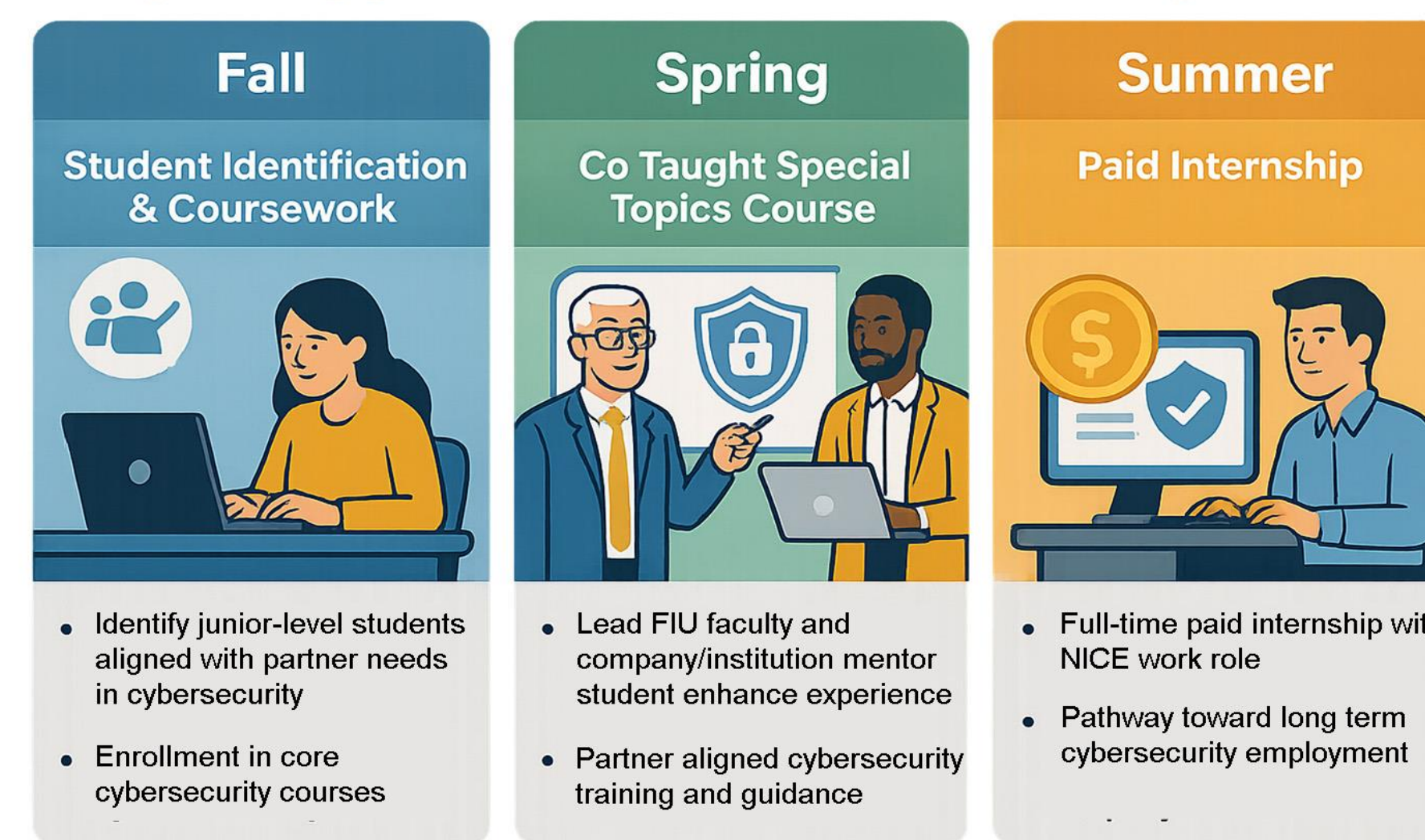
- FIU faculty and program leadership
- FIU Undergraduate cybersecurity students
- Public sector partners
- Private sector industry partners
- Healthcare partners
- Community college collaborators
- Miami CISO community
- NIST – NICE Program

NICE Framework

MiamiCyber2Work leverages the NICE Workforce Framework to ensure workforce relevance and alignment by:

- Emphasizing workforce ready knowledge, skills, and abilities (KSAs)
- Integrating competency based education aligned to employer needs
- Supporting structured progression from education to employment

Project Approach: Workforce Pathway Model



Project Goals

- Reduce the gap between employer needs and student skillsets
- Establish structured, employer aligned cyber career pathways
- Prepare students for successful internships and employment outcomes
- Strengthen collaboration among academia, industry, and government
- Advance regional cybersecurity workforce

Key Achievements to Date

- Established a multistakeholder cybersecurity workforce partnership
- Developed and implemented a structured pathway model

Fall-Spring-Summer pathway model

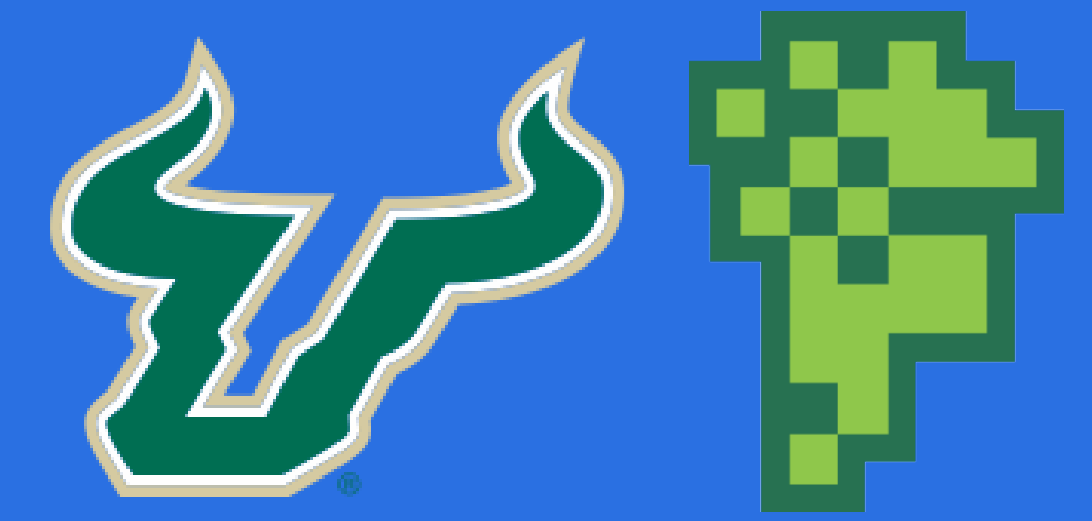
- Integrated industry mentors into academic instruction
- Engaged public, private, healthcare, and education sector partners

Future Plans

- Expand student participation and employer partnerships, engage local CISOs
- Strengthen assessment using NICE aligned workforce metrics
- Collect and publish student and mentor internship outcomes
- Scale the MiamiCyber2Work model for broader regional adoption

Sustainable, Hands-on, Community-Driven Cybersecurity Skills Training to Meet Workforce Needs of Critical Infrastructure Sectors in Florida

Led by Cyber Florida and
the Bellini College at the
University of South Florida
PI – Dr. Sriram Chellappan



Impacting the Tampa Bay, FL Region



Project Premise

The Problem: Critical Infrastructure (CI) Sectors are under-emphasized in cybersecurity programs nationwide. Students are underprepared when entering the workforce

Survey Outcomes: Our engagement with **400** CI sectors revealed the lack of requisite skill sets in this mission critical field, impacting national security

Our Solution: A carefully crafted, hands-on, community-driven, 14-week internship program for students to specialize in security of critical infrastructures

Program Uniqueness: Experiential Learning, Work-based Learning, Community Engagement, High-School Partnerships, and Integration with NICE Framework

Program Highlights



14-Weeks Curriculum

Basic Security Blue Team Level 1 (BTL1): Foundational and practical skills required for technical defenders to **monitor, analyze, and respond** to threats.

Industrial Control Systems (ICS) Foundational Course via the Aligned Realistic Cyberattack Simulation Range: Multiple ICS courses covering **Protocols, Attacks, and Defenses**.

ICS/SCADA Security Essentials: Covers **cybersecurity awareness, operational understanding, and hands-on technical skills** for protecting **critical infrastructures**.

Additional Experiences: Incident Response, Threat Hunting, Forensics, and Generating Audit Logs in a **SOC environment**.



Experiential & Work-Based Learning

- Curriculum based on **industry engagement** and **survey responses** for **experiential learning**
- Industry meets **once a month** with our students for feedback
- Students work with real industry data in a **SOC environment**
- **Work-based learning** is arranged via site visits to industries
- Integration of **AI** with **NICE** and CyberSeek for career readiness

- Two cohorts of five students each have completed the program
- Students have interned in **FL Critical Infrastructure Sectors**
- More sectors are reaching out to close workforce gaps

Community Driven & Engagement

Community Members: Tampa Airport, Tampa General Hospital, Talquin Co-op, Tampa Electric Company, City of Tampa and Seminole Electric



cyberflorida.org

Engagement Activities: Table-Top exercises, dissemination of project outcomes, reverse site visits, public sector training programs

Outreach Activities: K-12 schools across to promote K-12 interest in cybersecurity among teachers and students.

K-12 CyberLaunch 2025, Orlando



Pinellas County Tabletop Exercise



regional alliances and
multistakeholder partnerships

Building Accessible Cybersecurity Pathways Through Regional Collaboration in Rural Alabama

Led by Digital Promise and Talladega County Board of Education

Impacting East Alabama through the East Alabama Regional Cybersecurity Alliance (EARCA)



<https://tinyurl.com/35hy6phz>

Regional Context

Rural districts across East Alabama are working together to expand access to high-demand cybersecurity careers.

- Rural communities with limited access to career pathways
- Limited exposure to cybersecurity careers
- EARCA currently consists of Anniston City Schools, Etowah County Schools, Oxford City Schools, St. Clair County Schools, Sylacauga City Schools, and Talladega City Schools, and Talladega County Schools

Key Stakeholders

This work is driven by a cross-sector regional alliance.



K-12 Schools



Postsecondary



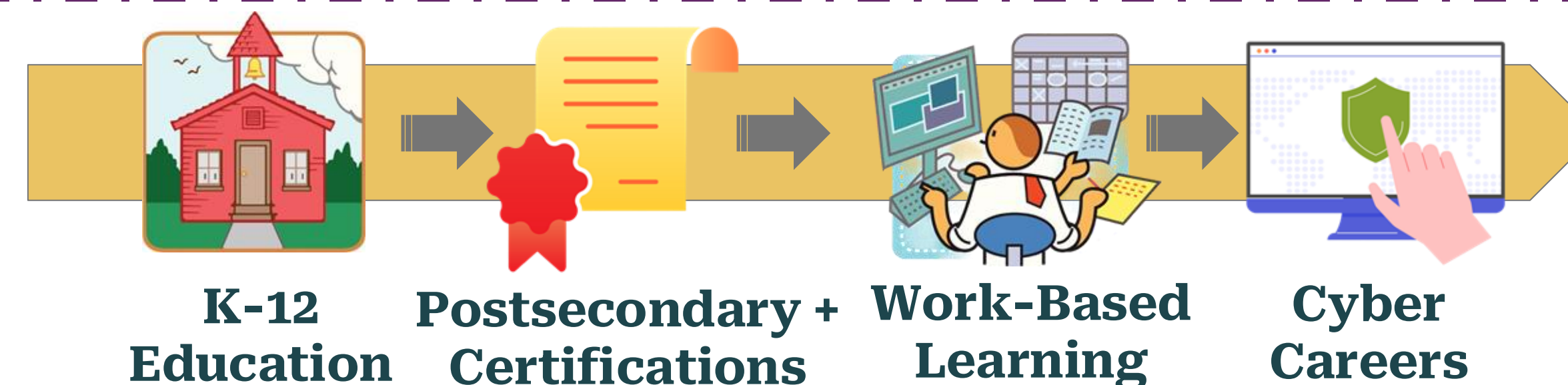
Students



Industry Partners

EARCA Pathway Model

Strengthening a regional cybersecurity workforce ecosystem to support economic growth and career pathways.



Using the NICE Framework

Pathways are aligned to nationally recognized cybersecurity roles, skills, and competencies.

- ❖ Workforce role alignment
- ❖ Competency-based instruction
- ❖ Credential-aligned pathways

35,000+
Students
across 7
districts

52.5%
Free/
Reduced
Lunch

7
Districts
Launching
Pathways

2025-26
Cyber
pathways
launched

Next Steps

Expand EARCA initiatives across **5 new districts**

Launch **internships and work-based learning** across all current EARCA school districts

EARCA Goals:

To build a sustainable, regionally aligned cybersecurity talent pipeline.

- ❑ Align education with workforce
- ❑ Expand career opportunities in rural communities
- ❑ Build structure tackable pathways
- ❑ Increase access to training and credentials

What We Built

Foundational systems and partnerships are now in place to support pathway launch and sustainability.



Partnerships

Regional network of industry and postsecondary partners, including, **Gadsden State Community College and HudsonAlpha**



Teachers

Educators **trained and certified** to deliver cybersecurity instruction



Curriculum & Supports

Project Lead The Way, TestOut by CompTIA, IBM SkillsBuild



Students

Outreach through **career fairs, open houses, and family engagement events**



regional alliances and multistakeholder partnerships

Cybersecurity Pathways

Alabama Statewide Cohort

BUILDING A REGIONAL CYBERSECURITY TALENT PIPELINE

TRI-PARISH WORKS CYBERSECURITY WORKFORCE INITIATIVE

PROGRAM LEADS

TRI-PARISH WORKS

Louisiana Workforce Development Board (LWDB 10)



AREA OF IMPACT

Impacting the Greater New Orleans and Baton Rouge, Louisiana Region's

Cybersecurity Workforce Development | Regional Talent Pipeline | Advanced Technology Sector



DATA-DRIVEN WORKFORCE ANALYSIS

Lightcast leads the regional cybersecurity workforce analysis, applying labor market analytics and methodologies used in national initiatives including CyberSeek and Cyber Maryland to quantify cybersecurity supply and demand gaps.



500,000 U.S. CYBERSECURITY WORKFORCE GAP



3,000 WORKERS NEEDED IN LOUISIANA



~ 800 WORKERS NEEDED IN THE NEW ORLEANS REGION



3,400 CYBERSECURITY JOB POSTINGS IN LOUISIANA



REGIONAL PARTNERSHIP ALLIANCE

Tri-Parish Works Cybersecurity Workforce Initiative brings together workforce development, education, and industry partners to build a coordinated cybersecurity workforce pipeline.

EDUCATION PARTNERS



EMPLOYMENT PARTNERS



REGIONAL CYBERSECURITY TALENT GAP

~ 800

WORKERS NEEDED NEW ORLEANS REGION



REGIONAL WORKFORCE STRATEGY

The initiative follows a three-phase approach to strengthen the regional cybersecurity workforce.



PHASE 1 REGIONAL WORKFORCE STRATEGY

Led by Lightcast to quantify regional cybersecurity supply and demand.



PHASE 2 STRATEGY DEVELOPMENT

Regional partners design a coordinated cyber workforce strategy.



PHASE 3 IMPLEMENTATION

Expand internships, career pathways, and cybersecurity training programs.



EXPECTED OUTCOMES



Increase the supply of trained cybersecurity professionals in the Tri-Parish region.



Strengthen alignment between education programs and employer workforce needs.



Expand internships and experiential learning opportunities that connect learners to high-demand careers.



Establish the Tri-Parish region as a growing hub for cybersecurity talent and innovation.

TRI-PARISH REGION SNAPSHOT



345,455

Population (2024)



6.1 %

Employment Growth 2019-2024



17,138

Veterans in the Region



EXPLORE THE INITIATIVE

Scan to learn more about the Tri-Parish Works Cybersecurity Workforce Initiative, including workforce data insights, regional strategy development, and upcoming cybersecurity career opportunities.

triparishworks.net/cyber



DEL MAR COLLEGE CYBER CENTER RAMPS INITIATIVE

Led by Del Mar College
Cyber Center

Impacting South Texas Coastal Bend Region



2026 Cyber Center Interns



MILESTONES

- Monthly Cyber Round Table for businesses, students, faculty, and cyber professionals.
- Annual Cyber Summit for business awareness and resilience training.
- DMC Cyber Club launched by interns for Del Mar College students.
- Community-wide cyber exercise with UTSA CyManII to train critical infrastructure IT and leadership; Texas Cyber Command participation.
- Partnered with Education Service Center Region 2 (ESC2) for cybersecurity assessment rubric training for school district cyber readiness.
- Partnered with CMMC ATP Aspire Cyber, LLC to train interns toward Certified CMMC Professional pathway.
- Expanded Texas-wide partnerships as a hub for small business cybersecurity support, workforce skills development, and community resilience.

CYBER CLINICS

Hands-on cybersecurity support for small businesses—policies, training, asset mapping, and CMMC readiness.

Impact: 15 interns trained with industry consultants; supported training to >70 businesses; supported 10 businesses for CMMC compliance; networked with InfraGard, FBI, CISA, USCG, Port of Corpus Christi, local government and industry.

INTERNSHIPS

Placing interns in real-world business environments with guided support and subsidized wages.

Impact: 6 interns placed in businesses & DMC Depts.; expanded employer demand for cyber talent.



GROW YOUR OWN

Upskilling existing staff into cybersecurity roles through targeted training.

Impact: 450+ trained in cyber awareness, incident response, NIST CSF, CMMC, and AI.



Cyber Summit-Incident Response Training

ENTREPRENEURSHIP

Supporting cybersecurity professionals in launching their own businesses.

Impact: 2 interns started consulting firms; 2 more in progress; expanded awareness and partnerships with DMC Small Business Development Center (SBDC).



“Being an intern at the Cyber Center has been a blessing. The network opportunities, the learning about cybersecurity, and the working with clients has greatly improved my confidence for my future career. This program has taught me responsibility, accountability, and how to work in a team.” Keyla Aldaba-Hernandez

Appendix: NIST RAMPS Award Information

The RAMPS Program is supported by NICE, a program of the National Institute of Standards and Technology in the U.S. Department of Commerce, under cooperative agreements. Comprehensive NIST award information for the featured programs can be found below.

Award Year	Recipient Organization	Award Number
2023	Strategic Ohio Council for Higher Education (SOCHE)	70NANB24H030
2023	CyberUp	70NANB24H029
2023	Energy Sector Security Consortium Inc.	70NANB24H042
2023	Digital Promise Global	70NANB24H031
2023	Women's Society of Cyberjutsu	70NANB24H044
2024	Howard Community College	70NANB24H311
2024	Old Dominion University Research Foundation	70NANB24H310
2024	Metropolitan Washington Council of Governments	70NANB24H315
2024	Purdue University	70NANB24H327
2024	Del Mar College District	70NANB24H308
2024	New York University	70NANB24H312
2024	The Sierra College Foundation	70NANB24H309
2024	Adventurous Minds Produce Extraordinary Dreams, Inc.	70NANB24H325
2024	University of Florida	70NANB24H324
2024	Virginia Polytechnic Institute & State University	70NANB24H317
2024	The Coding School	70NANB24H313
2024	Research Foundation CUNY on behalf of Lehman College	70NANB24H323
2024	Miami University	70NANB24H318
2024	The Escal Institute of Advanced Technologies, Inc.	70NANB24H322
2024	Moraine Valley Community College	70NANB24H316
2025	University of Southern Mississippi	70NANB25H153
2025	University of Maine at Augusta	70NANB25H158
2025	Industry Workforce Solutions, Inc.	70NANB25H159
2025	Bristol Community College	70NANB25H154
2025	The Escal Institute of Advanced Technologies, Inc.	70NANB25H161
2025	Frontier Technology Institute (Formerly known as The Coding School)	70NANB25H155
2025	San Bernardino Community College District	70NANB25H163
2025	AZ Cyber Initiative	70NANB25H165
2025	The Florida International University Board of Trustees	70NANB25H164
2025	Cyber Bytes Foundation	70NANB25H157
2025	University City Science Center	70NANB25H156

2025	IUP Research Institute	70NANB25H166
2025	Whatcom Community College	70NANB25H167
2025	St Bernard Parish Government - Workforce Programs (Triparish)	70NANB25H168
2025	The Trustees of the Stevens Institute of Technology	70NANB25H169
2025	The University of South Florida Board of Trustees	70NANB25H170