Commonwealth Cyber Initiative

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CCI Experiential Learning Research

RADFORD UNIVERSITY

CivilianCyber

OLD DOMINION UNIVERSITY

Bobby F. Keener, Jr.
CivilianCyber
bobby@civiliancyber.com

Dr. Jeff Pittges
Radford University
jpittges@radford.edu

Dr. Deri Draper-Amason
Old Dominion University
ddraper@odu.edu

Introductions

Background

The Problem

Understanding the challenge

- 99,000 Job Openings in the DMV (9/21/2022)
- College Graduates are not Workforce Ready
- Soft Skills and Application of Knowledge top the list
- Internships have value but may fall short
- Employer engagement is confusing and non-optimal
- 99.9% of companies are small or micro businesses

The Objective, Goals & Approach

Improve the outreach, identification of potential, and associated upskill/reskill opportunities to increase successful participation in the cyber workforce

Goal One

Increase and improve student experiential learning opportunities

Goal Two

Increase employer awareness and engagement in experiential learning initiatives and resources

Goal Three

Improve the overall workforce pipeline for high-demand STEM careers

The Approach

Public, private and educational sector research projects/pilot implementations

Research and Engagement

Projects

Real World Engagements

1. iDISPLA: The Innovative Discovery Platform (2019) (Department of Defense)
2. Leveraging AI and Machine Learning to Develop New CPSS and Workforce Development Solutions (2020) (COVACCI)
3. STEP: The STEM Training Education Program (2020) (SWCCI)
4. Experiential Learning: Continuous Improvement Advisory Board (CCI) (2021)
5. Develop a Gamified Mobile Application for Cybersecurity Education and Assessment via a User Centered Design Process (2021) (COVACCI)
6. TEIM: Technology Enabled Internships with Mentoring (2022) (SWCCI)
7. SEIC: The Student Entrepreneurial Ideation Challenge (2022) (SWCCI)

Participation

Engaging Virginia's Education, Public and Private Sectors

Commonwealth Cyber Initiative SOUTHWEST VIRGINIA

Commonwealth Cyber Initiative COASTAL VIRGINIA

- Small, Medium and Large Businesses
- Two- and Four Year Institutions and K-12
- Federal, State and Local Government
- Technology, Arts/Design and Business
- Representation from all Virginia Regions
- More than 100 Learners: Apprentices, Interns & GAs

Key Learning Approaches

Aligning approaches to outcomes

- ❑ Industry Engagement
- ❑ Career Exploration
- ❑ Self-directed Learning
- ❑ Mentorship
- ❑ Learning Coaches
- ❑ Peer Learning

TABLE 1: Alignment between projects and key learning approaches

	Industry Engagement	Career Exploration	Self-directed learning	Mentorship	Learning Coaches	Peer Learning
1. iDISPLA	■	■	■	■		■
2. Assessment	■	■				
3. STEP	■	■	■	■	■	■
4. Advisory Board	■					
5. Gamified App	■	■	■	■		■
6. TEIM	■	■	■	■	■	■
7. SEIC	■	■	■	■	■	■

Going Forward

Preliminary Indications

Multi-modal Engagements

1. Mentoring should be done on both a technical and professional level
2. Mentoring provides a deep impact to student workforce readiness
3. Mentor time commitments can be extremely low and still achieve desired impact
4. Organizations and professionals want to engage but require a more structured approach
5. Combining multiple approaches enhances the impact of each individual approach
6. Leveraging “wide net” participation strategies increases overall program effectiveness, naturally enhances DEI, and increases the overall quality workforce pipeline

Workforce Successes

Making a difference

Geneva Blackwell

A Navy veteran, Geneva worked in a number of sales positions at car dealerships. After completing the program, she secured a position as a Senior Technical Specialist/Business Development at AIS Networks, Virginia's eGov Services provider. She felt this was all possible due to the experience she was able to gain during the program.

Phuc Nguyen

Originally from Vietnam, Phuc had pursued an education in IT and cyber security and graduated from Virginia Commonwealth University (VCU) soon after joining the program. After completing his apprenticeship at ASI Network, he was recruited by his alma mater as a Network Specialist in the VCU Computing Center.

Kurtis Dennis

Kurt recently graduated from Old Dominion University with a Masters in Cybersecurity. He served his apprenticeship with CivilianCyber working on a number of projects. After completing the training, he was able to secure a full-time position as an IT Analyst in the Geico Insurance Emerging Leader program.

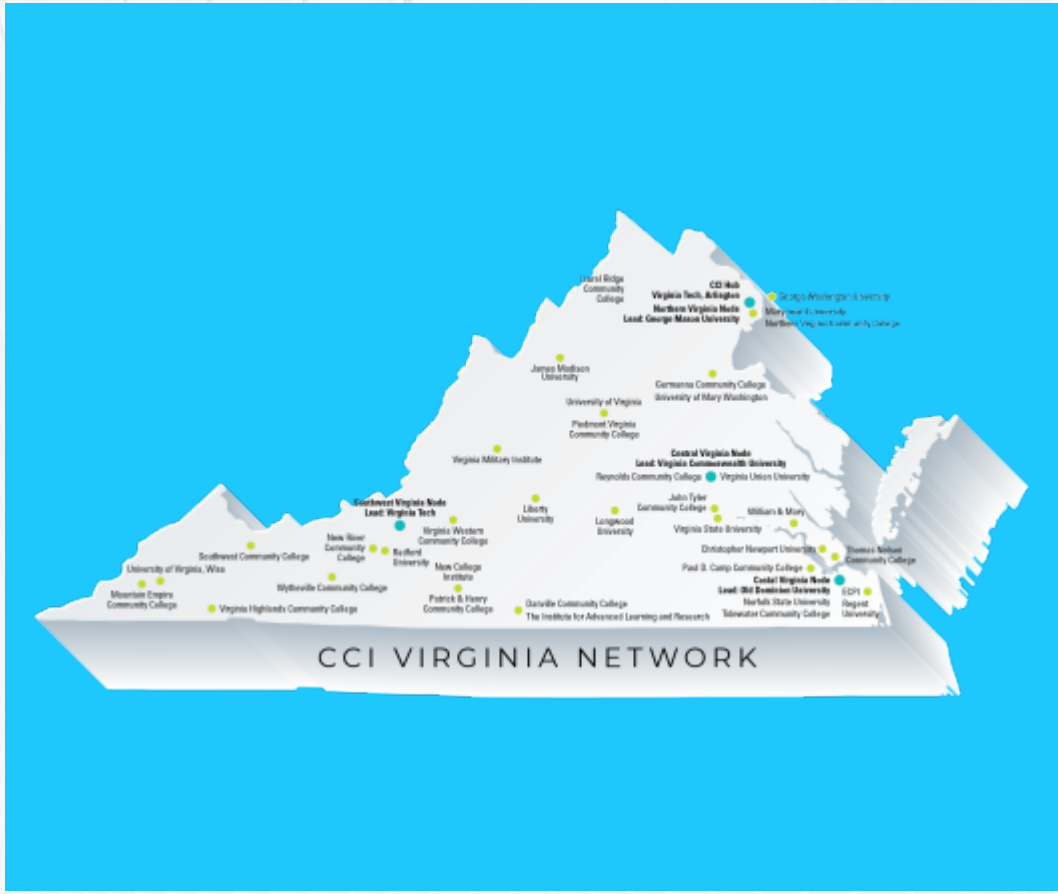
Faith Weems

Coming from a rural background, Faith had bounced between several low-level admin roles at local banks. When she completed the program, she was able to land a position as Engineering Program Compliance Coordinator at Moog, Inc. an aerospace defense contractor.

Future Research

Building on a solid foundation

- Scalable Approach to Mentor Development and Engagement (VASCAN Support)
- Improved rigor for future research of the identified Key Learning Approaches and impact on workforce readiness
- TEIM Phase 2: State-wide Implementation
- Further engagement of public, private and educational sectors to understand, develop and expand impactful, scalable approaches to experiential learning



Thank you!

For more information, please contact us…

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