

**Building a Sustainable Cybersecurity Pipeline**

# STEM Student Applied Cybersecurity Research

**Cybersecurity Framework – ANALYZE Summer Intern Sessions**



**HBCU Lead Consortium Partner**



**CECOR**  
Consortium Enabling  
Cybersecurity Opportunities  
& Research

# CYBERSECURITY

## VIRTUAL RESEARCH INTERN

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Academic & Industry Partner Leadership Point of Contacts



## ANALYZE

**NICE**  
NATIONAL INITIATIVE FOR  
CYBERSECURITY EDUCATION

### PROFESSIONAL DEVELOPMENT - WORKFORCE CYBERSECURITY FRAMEWORK

THE “ANALYZE” CATEGORY PERFORMS HIGHLY-SPECIALIZED REVIEW AND EVALUATION OF INCOMING CYBERSECURITY INFORMATION TO DETERMINE ITS USEFULNESS FOR INTELLIGENCE

This summer virtual intern program component includes a series of scheduled industry-led seminars. Sessions are focused on the cybersecurity work role, “Analyze”, from the NICE Cybersecurity Workforce Framework. Program leadership is provided by the Minority Cyber Inclusion Council, a workforce readiness industry initiative of the Council Exchange Board of Trade.

# OPPZone Research Resilience Analysis in Cybersecurity

## Program Description – Building Skills & Knowledge

Creating a national cybersecurity workforce dedicated to ensuring national security

The CECOR Consortium is focused on building the STEM/Research capacity and infrastructure at the University level. The CECOR Consortium works to ensure students are exposed to both an academic and professional experience/activities that will ensure their academic success and ability to make a smooth transition into the STEM workforce. CECOR's lead HBCU, Norfolk State University, has developed a partnership with an industry association\* representing the minority technology industry. This partnership brings a direct connection with multiple federal agencies and federal technology contractors who have agreed to support this virtual intern program.

As the demands of global business, computing, and society continue to revolve around the information, communication and technology (ICT) sector, the cybersecurity workload is increasing faster than cybersecurity professionals can meet the demand.

CECOR secured federal sponsorship to extend its consortia to include both the private sector and multiple federal agencies to collaborate on current and future research opportunities. Research includes student and faculty engagement, federal contracting and a new capacity to leverage grant opportunities that bridges innovation, cybersecurity and community resilience for regional economic development at HBCUs.

\*Council Exchange Board of Trade

### Design Based Methodology

This solution-oriented initiative is grounded in a design-based research methodology. It is focused on increasing the number of cybersecurity professionals in the public and private sector. Additionally it creates a new pathway to the minority technology industry, opportunity zone strategies and new HBCU government and NGO partnerships.

### Hands-on Research

The Minority Cyber Inclusion Council OppZone Research Professional Development Institute is an exclusive, invitation only program for undergraduates, graduate students and professionals. Program participants will be immersed in real world research, analysis and problem solving under the direction of industry leaders and subject matter experts.



### Building Skill Sets

All participants engage in a minimum of 56 hours of coordinated, outcome driven research, over a seven-week period. Program incorporates a coordinated field trip that includes student interaction and discussions with federal agency executives and program managers in policy, research, innovation and cybersecurity.

### Industry Credential

Upon successful completion, participants will be awarded industry recognized achievement badges and certificates. Participants who are invited and choose to become Fellows, may continue through the academic year. Optional renewals are based on performance.



# Cybersecurity Research Assistant

## Industry Coordinated Position Description



[www.mcicouncil.org](http://www.mcicouncil.org)

### Overview:

The Cyber Security Research Assistant is responsible for providing technical assistance in support of the NSU Cyber Complex and associated industry/government/HBCU partners.

### Duties/Tasks:

- Conducting in-depth research and analysis to provide feedback to stakeholders
- Analyze data/information from one or multiple sources to support research
- Answering requests for information
- Engage key designated officials to understand intelligence needs and wants
- Generate requests for information
- Identify threat tactics, and methodologies
- Provide input and assist in the development of plans and guidance
- Provide target recommendations which meet leadership objectives

### Knowledge/Skills/Abilities:

- Knowledge of cybersecurity and privacy principles
- Knowledge of human-computer interaction principles
- Knowledge of website types, administration, functions and content management system (CMS)
- Knowledge of evolving/emerging communication technologies
- Knowledge of how Internet applications work (SMTP email, web-based email, chat clients, VOIP)
- Knowledge of how to extract, analyze and use metadata
- Knowledge of telecommunication fundamentals
- Knowledge of basic network security
- Skill in conducting non-attributable research
- Skill in using multiple search engines
- Skill in utilizing feedback to improve processes, products and services
- Skill in utilizing virtual collaborative workspaces and/or tools
- Skill in using multiple analytic tools, databases and techniques
- Skill in preparing and presenting briefings
- Skill in evaluating information for reliability, validity and relevance
- Ability to communicate complex information, concepts or ideas in a confident and well-organized manner
- Ability to accurately and completely source all data used
- Ability to collaborate via virtual teams
- Ability to evaluate, analyze and synthesize large quantities of data
- Ability to think critically



## \*Schedule of Events

<b>VIRTUAL INTERNSHIP &amp; PROFESSIONAL DEVELOPMENT IN WORKFORCE CYBERSECURITY FRAMEWORK</b>			
	<b>Session 1</b>	<b>Session 2</b>	<b>Session 3</b>
  	Industry Orientation – Consent/ Fellow App  Virtual Intern Research Position Descriptions  Intro - OppZone Research & Global Resilience  Introduction to Federal Executive Leadership and DC Federal Interns	Role of Technology in Economic Development  Technology Readiness Level – Technology Transfer and Applied Research  Design Based Research Capstone Project Team Assignment & Planning	Innovation in Motion  Public-Private Partnerships  Federal Contracting  Capstone Project Development  Federal Work Assignment Call in and Report
<b>Cybersecurity Research Assistant Summer Sessions</b>			
<b>Session 4</b>	<b>Session 5</b>	<b>Session 6</b>	<b>Session 7</b>
Minority Cyber Inclusion Council  NICE Cybersecurity ANALYZE – KSA Awareness Scoring  Federal Work Assignment Call in and Report  Capstone Project Update 1 <sup>st</sup> Report Draft Uploaded	Building Trusted Networks - Journey to Adjudication - Top Secret Security Clearance Requirements - Developing Your Career Portfolio  Guest Cyber SME Speaker  Federal Work Assignment Call in and Report	Site Visit to Federal Agencies (Energy, HUD)  Federal Leader Keynote  HBCU Competes Student Research Presentation  Minority Tech Company Reception	Federal Data Strategy Use Case Presentation  Opportunity Zone Capstone Presentation  Technology Transfer Capstone Presentation  Closing Session & Awards Program

Students may have opportunities for professional engagements between sessions

\*Subject to change



# ORGANIZATION DESCRIPTION

## CONSORTIUM ENABLING CYBERSECURITY OPPORTUNITIES AND RESEARCH

Norfolk State University leads a collaborative effort among thirteen colleges and universities, one public school district, two national laboratories, and a DOD facility to develop a K-20 pipeline for cybersecurity workforce.

The project will create a workforce development program to produce well-qualified cybersecurity professionals in significant numbers to address the pressing cybersecurity workforce shortage. Proposed summer objective is to provide summer federal internships to students and expose them to a research analyst work environment.

The main goal is to produce well-qualified cybersecurity professionals in significant numbers to address the pressing cybersecurity workforce shortage. CECOR efforts include building student and faculty capacity through the installation of new infrastructure, the development of cybersecurity courses for students and faculty, hosted summer camps and internships and collaborated research opportunities that include faculty and students.

## CECOR HBCU & Federal Lab Consortium Partners

- [Allen University](#)
- [Benedict College](#)
- [Bowie State University](#)
- [Charleston County Sch Dist](#)
- [Claflin University](#)

- [Clark Atlanta University](#)
- [Denmark Technical College](#)
- [Lawrence Livermore Nat'l Lab](#)
- [Morris College](#)
- [Norfolk State University](#)

- [North Carolina A&T State Uni.](#)
- [Paine College](#)
- [South Carolina State University](#)
- [University of the Virgin Islands](#)
- [Voorhees College](#)

## COUNCIL EXCHANGE BOARD OF TRADE – MINORITY CYBER INCLUSION COUNCIL

The Minority Cyber Inclusion Council works to bridge the gap between industry, government and education in order to inform the minority community about the growing employment and training opportunities ([www.mccouncil.org](http://www.mccouncil.org)). MCI Council, as a convener for subject matter experts willing to develop networks and systems that amplify resilience and scale, will build sustainable solutions through education, partnerships and research.



**CECOR**  
 Consortium Enabling  
 Cybersecurity Opportunities  
 & Research

## Consortium Enabling Cybersecurity Opportunities and Research

Norfolk State University, NSU Cybersecurity Complex

700 Park Avenue, Norfolk, VA 23504

[www.nsu.edu/cybersecurity](http://www.nsu.edu/cybersecurity)

Contact: Dr. Aurelia T. Williams, CECOR Principal Investigator

Email: [atwilliams@nsu.edu](mailto:atwilliams@nsu.edu) | Phone: 757-676-5304

## Council Exchange Board of Trade

National Minority Technology Council

Minority Cyber Inclusion Council

1750 Tysons Boulevard, Suite 1500,

McLean, Virginia 22102



**COUNCIL.EXCHANGE**

[www.council.enterprise](http://www.council.enterprise)



[www.nmtcimpact.org](http://www.nmtcimpact.org)



[www.mcicouncil.org](http://www.mcicouncil.org)

### OppZone Research Cybersecurity Virtual Intern Program - Industry Facilitators

<b>Karl Cureton</b>	<b>Brenda Cureton</b>	<b>Lorne Joseph</b>
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