

National Cybersecurity
CENTER Training & Education Center



The Value of CAE-C and the CAE as a Community

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Proud CAE since 2005!

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Overview



- Brief overview of the NCAE in Cybersecurity program
- Benefits of the “new” PoS Validation criteria
- Value of achieving a CAE Designation
- Highlights of the “new” criteria
 - Part I: PoS Validation criteria
 - Part II: CAE Designation criteria
- CAE Community of Practice (CoP) for Cyber Defense (CD)
- Few CAE Resources

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NCAE in Cybersecurity Program



Vision:

- Academia – Government - Industry partnership
- CAE Community institutions are leaders in cybersecurity education
- Producing exceptional graduates to meet U.S. cybersecurity workforce needs

Source: <https://www.nsa.gov/Academics/Centers-of-Academic-Excellence/>

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NCAE in Cybersecurity Program



The mission of the NCAE-C is to enable a collaborative environment of higher educational institutions focused on cybersecurity that:

- **Establishes standards** for cybersecurity curriculum and academic excellence
- Includes **competency development** among students and faculty
- Values **community outreach** and **leadership** in professional development
- **Integrates cybersecurity practice** within the institution across academic disciplines,
- Actively pursues **solutions** to challenges facing cybersecurity education.

Source: <https://www.nsa.gov/Academics/Centers-of-Academic-Excellence/>

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NCAE in Cybersecurity Program



- In 1999 National Security Agency (NSA) established the Centers of Academic Excellence in Information Assurance (now in Cyber Defense) program to reduce vulnerability in our national information infrastructure
- Growing from seven institutions to 334+ CAE-CD institutions today
- The National Centers of Academic Excellence in Cybersecurity (NCAE-C) program is managed by NSA's National Cryptologic School – Program Management Office (PMO)
- Average 50,000 students enrolled in any academic year
- Average 12,000 graduate annually

Source: [2020 National Centers of Academic Excellence in Cybersecurity - Journal](#) + PMO

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The Value of PoS Validation



- Initial step towards NCAE-C
- Outwards looking
 - Competency and skills development
 - Quality of graduates and reputation
 - NICE Workforce Framework job roles
- Inwards looking
 - Regular programmatic evaluation of PoS
 - Quality of courses, hands-on labs, etc.
 - Faculty member(s)
 - Local community outreach activities
 - Student clubs
- Continuous improvement of PoS



The Synergistic Approach
Needed to Become CAE-C

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The Value of CAE Designation



- Join the party! (well... CAE Community :o)
- “Designation” **NOT** “accreditation” – Why?
- Be an Active member to help shape the community
- Collaborate with fellow CAEs
- Connect with industry and government – trust factor
- Grant and grant collaboration opportunities - GenCyber, CySP, etc.
- Access to exceptional shared resources
- Access to national and regional networking opportunities: CAE Symposium, career fair, Regional Hubs events/activities, etc.
- Access to competitions
- Faculty development and TechTalks

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CAE Application: Part I + II



<https://nsa-ncae.com/>

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CAE-CD Application Assistance Resources



The screenshot shows the NCYTE Center website. The top navigation bar includes Home, Resources, Membership, Events, Login, and About. The main content area is titled "CAE-CD Designation Requirements" and includes a link to the "NCAE-C Website". Below this is a section for the "CAE Designation Workshop Video" with a description of the workshop and a video player. A red arrow points from the left side of the slide to the video section.

<https://www.ncyte.net/resources/cae-designation-resources/cae-cd-application-assistance-resources>

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Highlights of Part I: PoS Validation criteria



1. PoS Curriculum

- The Cybersecurity PoS Offered by the Institution
- NICE Framework Crosswalk Alignment
- Courses Syllabi and Courses Requiring Applied Lab Exercises (For KU Aligned Courses Only)
- Curriculum Map and Plan with Assessment Documentation
- Knowledge Units (KUs) Alignment (See Appx. 3)
- Graduate Thesis/Dissertation/Equivalent Guidelines and Process (Masters and Doctoral programs only)

3. Faculty Members

- Cyber Program(s) of Study PoC
- Full-time, part-time, and adjunct faculty members + Faculty qualifications (publications, research, industry involvement, certifications, etc.) related to PoS type
- Faculty support of enrolled students
- Process of Faculty Promotion/Reappointment (e.g. Faculty Policy Manual)

2. Students

- Student enrollment/graduation in the PoS(s)
- CAE-CD: Sample student certificate/notation on transcript/official letter
- Students work products (papers, assignments, labs, etc.)
- Students participation in extracurricular activities

4. Continuous Improvement

- Continuous Improvement plan
- Continuous Improvement process
- Regular evaluation schedule

<https://di.dod.cyber.mil/wp-content/uploads/cae/pdf/unclass-cae-proposed-cae-cd-designation-requirements.pdf>

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Highlights of Part I: PoS Validation criteria

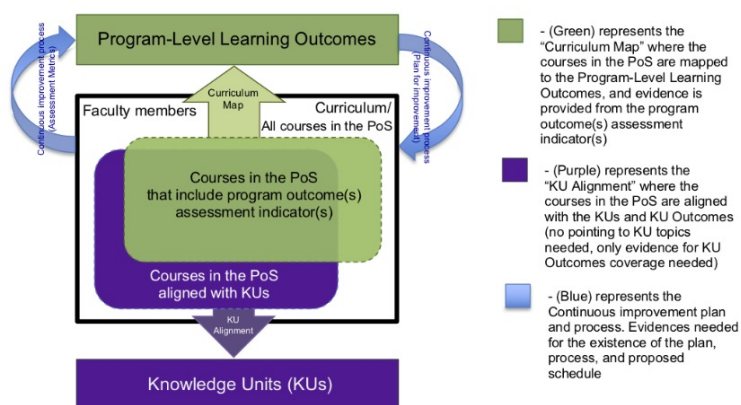


Figure 3. PoS Validation Conceptual Model

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Highlights of Part I: PoS Validation criteria



2. Students

- a) Student enrollment/graduation in the PoS(s)
- b) CAE-CD: Sample student certificate/notation on transcript/official letter
- c) Students work products (papers, assignments, labs, etc.)
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<https://dl.dod.cyber.mil/wp-content/uploads/cae/pdf/unclass-cae-proposed-cae-cd-designation-requirements.pdf>

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Highlights of Part II: CAE Designation criteria



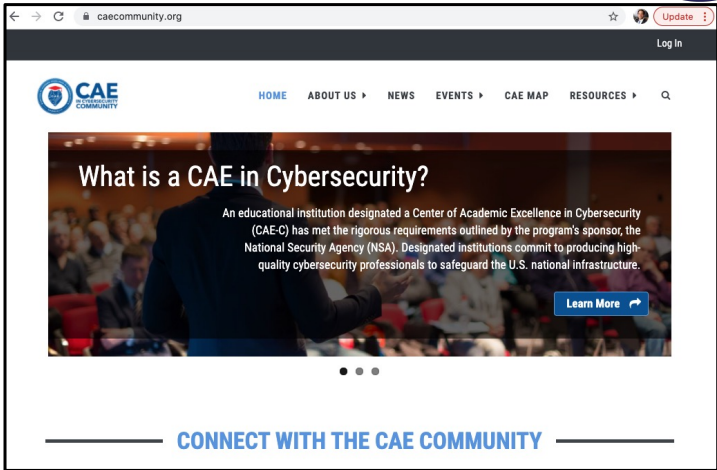
1. Accreditation
- 2. Institution Commitment (letter of intent and endorsement)
- 3. Evidences of Sound Cybersecurity Posture and Plan
4. Established "Center" for Cybersecurity
5. Affirmation of the CAE Core Values and Guiding Principles
6. Sustainability
7. Professional Development
- 8. Cybersecurity Academic Integration
9. Outreach
10. Transfer of Credit/Articulation Agreements

<https://dl.dod.cyber.mil/wp-content/uploads/cae/pdf/unclass-cae-proposed-cae-cd-designation-requirements.pdf>

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CAECommunity.org

<https://CAECommunity.org/>

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CAE CoP-CD Mission



"To collaborate with both the CAE Community and the CAE-C Program Management Office (PMO) to build a Cybersecurity Excellence Community of Practice in Cyber Defense (CoP-CD) in order to gather and share input from the broader community as well as to provide continuous program improvement"

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CoP in a Nutshell



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CoP-CD Steering Committee



- Steering Committee established in November 2020
- 30+ Individuals with extensive experience with the CAE Program from 2yrs and 4yrs institutions
- Help prioritize the goals, objectives, and initiatives
- Provide feedback on planning and assessments of programs
- Participate as initiatives co-chairs (sub-committees)
- Help aggregate feedback from CoP-CD members
- Serve as ambassadors and voice for the CD community

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1st CoP-CD Major Initiative



- *'Getting to know your fellow CAEs'* initiative co-chairs
 - Gretchen Bliss - University of Colorado at Colorado Springs
 - Sandra Blanke - University of Dallas
- Every 2nd Thursday of the month – a 1hr event
- Started on July 8, 2021 – 4 events so far with 12 CAEs
- Signed up 160+ folks to attend, about 50-70 attend
- Lined up already 75+ additional institutions
- Informing CAEs via multiple methods

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1st CoP-CD Major Initiative



CAE Community of Practice Cyber Defense - Know Your Fellow CAEs

November 4, 2021 Agenda

Welcome to All

Presenters:

Dr. Bo Yuan Rochester Institute of Technology, NY

Dr. Chutima Boonthum Hampton University, VA

Dr. Bilge Karabacak Franklin University, Columbus, OH

Dr. Kenneth Williams American Public University System, Charles Town, WV

Following Meeting – December 9 @2pm ET

Registration for Future Presentations:

link: https://nova.zoom.us/meeting/register/tJAsdequqj8oGtx328aZWxN7HT4_Nc5g6YVv

YouTube link for Recordings: www.youtube.com/channel/UCLr52AD7_I-GuW_HyMGc9sA

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Recording... You are viewing Sidd Kaza (Towson U)'s screen View Options 01:11:34 View

Faculty Professional Development TU TOWSON UNIVERSITY

84 trips supported in 2016-2017

Faculty Development – Workshops Research Presentations

Grant funded Department funded College Funded

Participants: Sidd Kaza (Tows...), Yair Levy, Nina Amey, Anne Kohnke, Gretchen Bliss, Gregory Laidlaw, Blair Taylor, Tobli West, Thomas Brown, Keith Nabozny, Mark Hufe, Michael Battig

Unmute Stop Video Security Participants 47 Chat Share Screen Polling Pause/Stop Recording Live Transcript Breakout Rooms Reactions End

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CAE-CD Regional Outreach Competition

NATIONAL CENTERS OF ACADEMIC EXCELLENCE IN CYBERSECURITY

CAE COMMUNITY

- ‘CAE-CD Regional Outreach Competition’ initiative co-chairs
 - Xiuwen Liu - Florida State University
 - Wei Li - Nova Southeastern University
- Work with Regional Hubs to plan to promote October - Cybersecurity Awareness Month + yearly Outreach activities
- Each hub will collect activities in their hub
- The hubs compete!
- The hubs + CAEs with the most “impact” wins! (1st, 2nd, 3rd places)



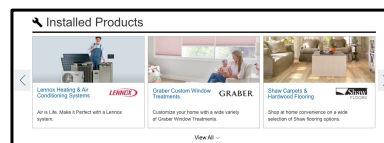
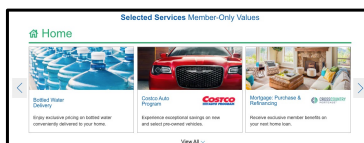
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CAE Shared Resources and Group Pricing



- *'CAE Shared Resources and Group Pricing'* initiative co-chairs
 - Stephen Miller - Eastern New Mexico University
 - Christopher Simpson - National University
 - Tirthankar Ghosh - University of West Florida
- "Costco Services" style for CAEs to get access to 'expensive' or 'out-of-reach' platforms: CyberRange, Cybersecurity Labs, Forensics Labs, Certification-prep platforms, etc



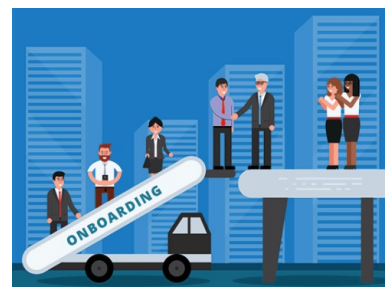
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New CAE-POC Onboarding Process



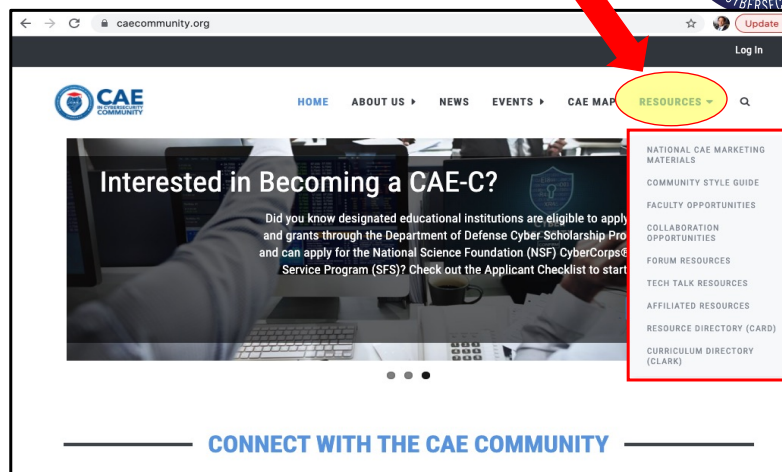
- *'New CAE-POC Onboarding'* initiative co-chairs
 - Kaleem Faisal - Metropolitan State University
 - Anthony Pinto - University of West Florida
 - Eric Berkowitz - College of Lake County
- We solicited input from the CoP-CD Steering Committee and PMO to compile list of important items
- We will document findings and create additional documentation (instructional, process maps, etc.) to provide new CAEs-POC an 'easy' onboarding workshop
- All documentation will be made available online via CAECommunity.org + CARD



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CAECommunity.org Resources

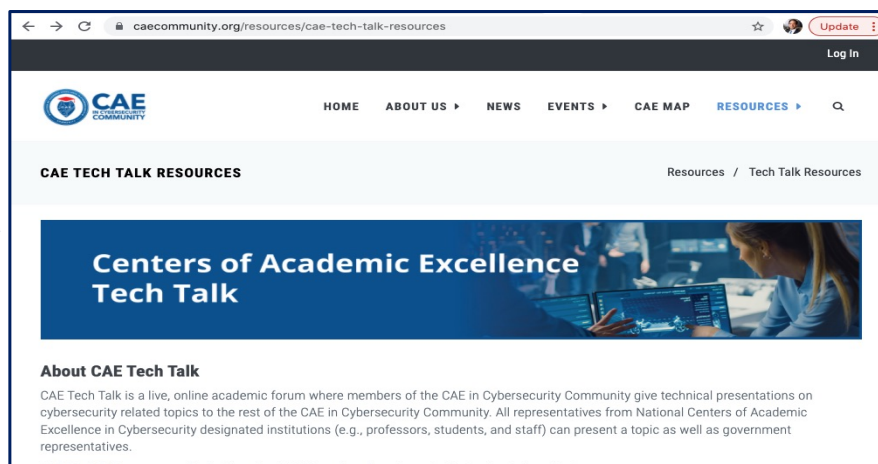


<https://CAECommunity.org/>

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CAE TechTalks

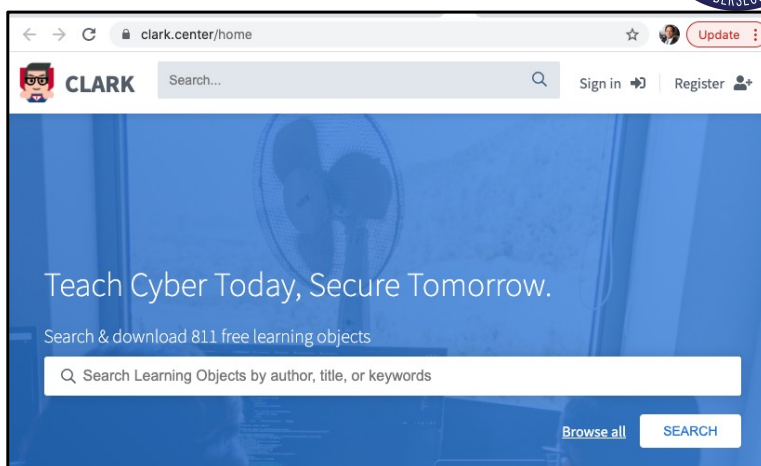


<https://caecommunity.org/resources/cae-tech-talk-resources>

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Cybersecurity Labs and Resource Knowledgebase (CLARK)

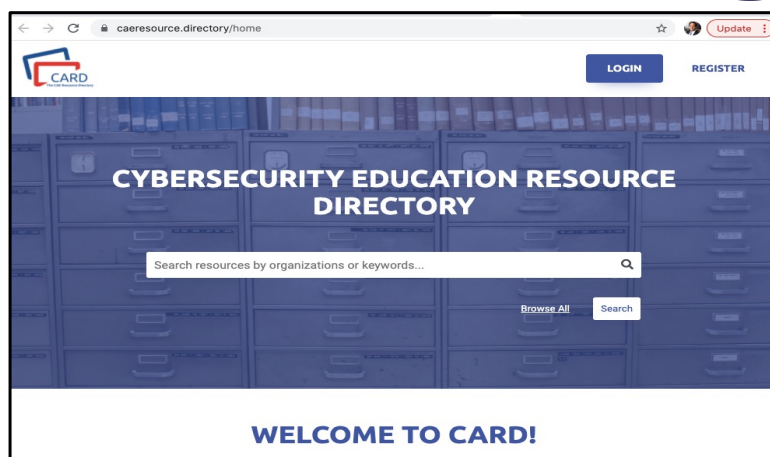


<https://clark.center/>

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CAE in Cybersecurity Resource Directory (CARD)

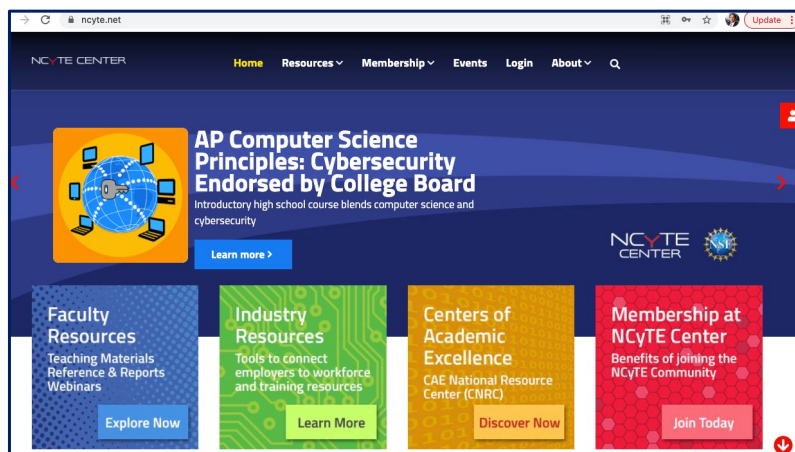


<https://caeresource.directory/>

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NCyTE.net

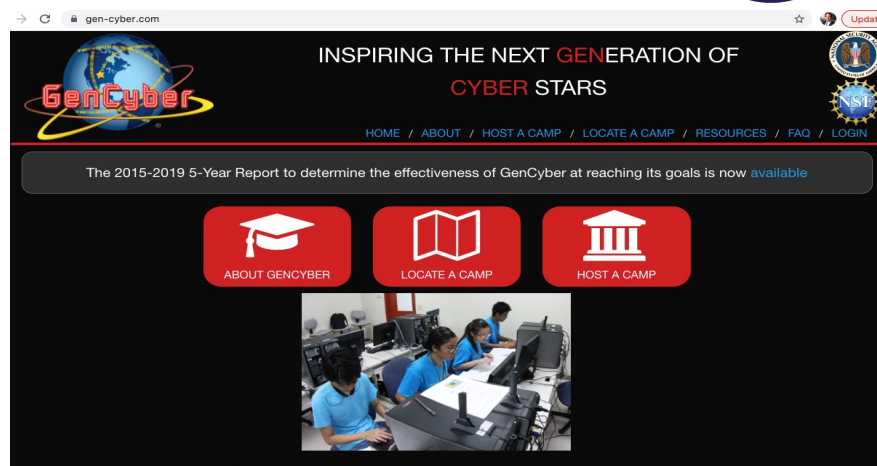


<https://www.ncyte.net/>

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Gen-Cyber.com

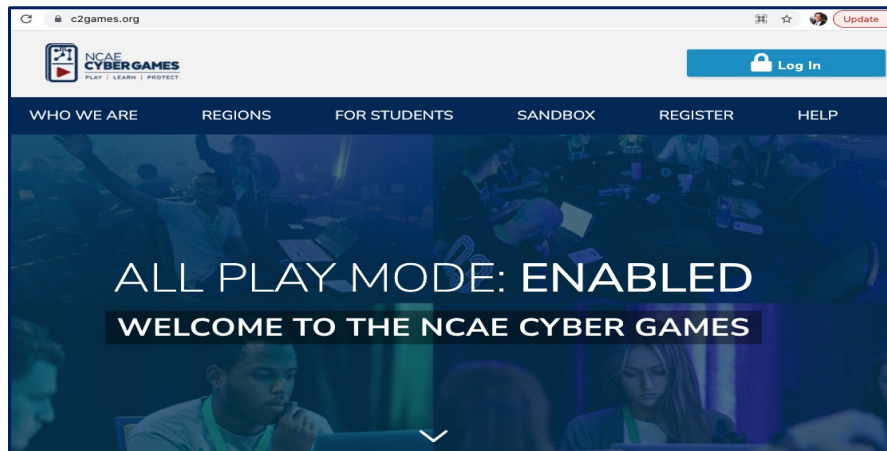


<https://Gen-Cyber.com/>

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NCAE Cyber Games



<https://NCAECybergames.org/>

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CAE CoP-CD Webpage



CAE Community of Practice in Cyber Defense (CoP-CD) webpage:

[https://www.caecommunity.org/
community-of-practice/
cyber-defense](https://www.caecommunity.org/community-of-practice/cyber-defense)

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Thank you!



Questions?

← *Direct all to my assistant... via:*

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CAE in Cybersecurity Community

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NCAE-C Program Management Office

(PMO) CAEPMO@nsa.gov

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