



# CAE Community of Practice Cyber Defense - Know Your Fellow CAEs



## Bowie State University

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Department: Computer Science

Bowie, MD

URL to Cyber Center:

<https://bowiestate.edu/academics/colleges/college-of-arts-and-sciences/departments/computer-science/center-for-cyber-security-and-emerging-technologies>



# Current Validated PoS



- **Name of Validated Program of Study**
  - Computer Science, Bachelor of Science (B.S.) with a concentration in cybersecurity - CDE-Technical
  - Department where program resides: Department of Computer Science
  - Date of the program study validation: March 23, 2021. Competed CAE application on July 8, 2021.
- **Other PoS(s) that your school offers:**
  - The Department of Computer Science offers a [Master of Computer Science Degree in Cybersecurity Concentration](#)
  - The Department of Technology and Security offers a [Bachelor of Science degree in Computer Technology](#) with a track in Computer and Network Security.
  - The Department of Management Information Systems offers a [Master of Science in Management Information Systems with a concentration in Information Assurance](#)
- **Program Focus and/or target NICE Cybersecurity Workforce Framework job roles**
  - Securely Provision (SP), Operate and Maintain (OM), Protect and Defend (PR), Collect and Operate (CO)
- **Subject Matter Expertise:**
  - Data privacy, Cryptography, Network Defense, System programming, Software Security Analysis and Software Assurance



# What May Be Your Next PoS?



- **Master of Computer Science in Cyber Security Concentration**
  - <https://bowiestate.edu/academics/colleges/college-of-arts-and-sciences/departments/computer-science/graduate/masters-degree/required-courses.php>



# What Are Your Research Projects Or Research Interests?



## **Cybersecurity Related Projects:**

- NSF EiR: Detecting Vulnerabilities in Internet of Things with Deep Learning
- NSF LUCID: A Spectator Targeted Visualization System to Broaden Participation at Cyber Defense Competitions
- NSF Targeted Infusion Project: Developing a Cloud-based Cryptographic Simulator for Enhancing Undergraduates' Learning Experience in Cybersecurity Education
- NSF EAGER: Exploring Visualized and Explainable Artificial Intelligence to Improve Students' Learning Experience in Digital Forensics Education
- Radiant: Edge Computing, GAN Processing, and Synthetic Data Research
- Millennium: Cyber Operation and Web Security



# What Are Your Schools Specialties And Subject Matter Expertise?



- **School-wise subject Matter Expertise:**

The Department of Technology and Security offers three tracks for undergraduate students:

- Network Enterprise Infrastructure Track
- Internet Technologies Track
- Data Science and Database Administration Track

The Master of Science in Management Information Systems program offers a concentration in Information Assurance

**Student Organizations:**

- Cybersecurity club:

On Oct. 17, 2020, The BSU Bulldog cyber team participated in the Hivestorm Competition. Hivestorm is a collegiate-focused cyber defense competition

On Feb 27. 2021, The BSU Bulldog cyber team participated in the 2020 MACCDC Qualifier

On Mar 24 2021, The BSU Bulldog cyber team participated in the Cyber Maryland Challenge Competition

- Women who Code club

**Integrate Research into Curriculum**

To engage students in learning

**Annual Cybersecurity Workshop**

To expose participants to latest trends in cybersecurity





# What Grants Are You Working On Or Grants You Want To Collaborate With Others On?



- Federal Agencies: NSA, DoD, NIH and NSF, DoE
- Industry: Radiant, Millennium, SAIC, Adobe



# Do You Currently Partner Or Support Other CAEs Or Prospective CAE Schools?



## List the schools below:

- Partner with Norfolk State University on cybersecurity competition mentorship program
- Capital University – doctoral dissertation Co-advising on Block Chain
- UMGC - Faculty sharing program
- Towson University – security injection modules
- University of Baltimore – joint cyber club activities



# What Changes, Enhancements Or Gaps Do You Have In Your Program That You Could Use Help With?



## **Challenges:**

- Cyber Security Faculty shortage
- We need Faculty to teach security courses and supervise doctoral students
- Doctoral students need scholarships and tuition waiver program

## **Changes to be made:**

- Hire more faculty with cyber security background
- Secure more external funding opportunities and industry partnerships





# What Else Would You Like To Tell This Group Of CAEs?



- We look forward to know other fellow CAEs' expertise and seeking for more collaborations
- We look for adjunct faculty to teach our cyber security related courses for Master and Doctoral program
- We encourage fellow CAEs to promote our doctoral program