



2025-2026 **DIRECTOR'S REPORT**

Center for the Advancement of Cybersecurity

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Do you see a person skilled in his work?
He will stand in the presence of kings.
Proverbs 22:29

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LETTER FROM THE DIRECTOR

We thank God for another amazing school year! Last July, we hosted our second GenCyber Camp, welcoming 24 rising high school seniors from around the nation to our campus to learn about cybersecurity, all fully-funded by the NSA. This Spring, our cyber team won the state of Ohio in the Collegiate Cyber Defense Competition (CCDC) and finished second in the Midwest Regionals—our best finish ever. In the nation's largest collegiate cyber competition, the National Cyber League (NCL), we finished **3rd in the nation** in the Fall and **2nd in the nation** this Spring against over 500 schools! Also, our underclassmen team won the beginner-level NCAE Games Regional competition and earned a fully-funded trip to Tampa for the NCAE Finals. Our Cyber Leader Development Program (CLDP) is in its second year and growing. This February, our CLDP students created a cyber camp for local middle school students called CedarBits, and it was a huge hit with demand far exceeding our capacity! Our peer-taught Basic Cyber Maneuvers and Advanced Cyber Maneuvers courses each drew over 30 underclassmen this year. Jericho, the senior design project our students started last school year and continued this year, is drawing a lot of attention for its innovative approach to tying cyber operations to physical effects in a cost-affordable way. Additionally, we had several senior capstone projects focusing on cutting-edge AI research this year. Two of our teams presented their results to USCYBERCOM in Maryland. Last but not least, eight of our students were awarded the prestigious Cyber Service Academy (CSA) scholarship and another eight were selected for next year!

In my travels across the nation, I have become acquainted with several top cyber programs. It is my conviction that, by the Grace of God, we have the strongest extracurricular cyber program in the nation. It is all because of the outstanding young men and women that the Lord draws to Cedarville. They love God, have tremendous character and work ethic, and seek to serve and grow so that they can make the most of their 1,000 days at Cedarville. We know that He is blessing us so that we can be a blessing to others. Thank you for your support of our cyber program. Please take a few minutes to review this year's Director's Report and join us in giving thanks to the Lord for the work He is doing here.



P.S. You may be wondering how AI is impacting our cyber program. Between our Computer Science and Cyber Operations majors, our numbers are still strong but are down about 10%. This is much better than some schools that have seen 30% decreases. For some of my thoughts on the AI revolution, be sure to read "A Note on AI" at the end of this report.



Seth Hamman, PhD | CISSP | GPEN | CEH-M | GLEG
*Director, Center for the Advancement of Cybersecurity &
Professor of Cyber Operations and Computer Science
School of Engineering and Computer Science
Cedarville University*

ABOUT THE CENTER

History

The Center for the Advancement of Cybersecurity at Cedarville University was established in 2018 by Cedarville faculty who recognized the need to equip young men and women for Christ-centered cybersecurity service marked by excellence while also enhancing the emerging field of cyber education in the academy. On campus, the Center advances cybersecurity by providing students, faculty, and staff with cybersecurity expertise. Off campus, the Center serves society by promoting cybersecurity best practices.

Ultimately, the Center exists to advance Christ's Kingdom by equipping His ambassadors for influence in the increasingly vital domain of cyberspace. From its humble origins in the basement of the Engineering and Science building to its current home in the Scharnberg Business & Communication Center, the Cyber Center, as it is affectionately known on campus, is uniquely positioned not only to address the problems of the ever-evolving field of cybersecurity but also to provide leadership in its growth.



Mission

The Center for the Advancement of Cybersecurity at Cedarville University will advance cybersecurity in our nation by developing tomorrow's cyber leaders in the classroom, shaping cyber education in the academy, and promoting cyber awareness in society.

Vision

The Center for the Advancement of Cybersecurity at Cedarville University, with the clarity, conviction, and character that arise from our Christian faith and values, will advance cybersecurity to the benefit of society.

Meet the Director

Dr. Seth Hamman joined the faculty at Cedarville in 2012, bringing real-world experience to the classroom from having worked in the tech industry, both as an employee of a startup dotcom and as a consultant. Today, he directs Cedarville's Cyber Center where he led the creation of Ohio's first Cyber Operations B.S. degree program. In addition to teaching his Introduction to Cybersecurity and Cyber Defense courses, he co-leads the NSA's National Centers of Academic Excellence in Cyber Operations (CAE-CO) Community of Practice and heads the CAE Knowledge Units criterion while also serving on the National Cyber Curriculum Task Force and the CAE-AI steering committee. Dr. Hamman is passionate about shaping the growing discipline of cybersecurity education, developing the next generation of cyber leaders, and integrating his Christian faith into his teaching.



Cyber Operations and Computer Science Faculty



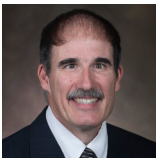
George Landon, Ph.D.
Head of Program for Computer Science and Cyber Operations
Professor of Computer Science



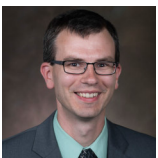
Seth Hamman, Ph.D.
Cyber Center Director
Professor of Cyber Operations & Computer Science



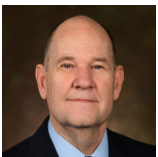
Nick Parry, M.S.
Cyber Center Deputy Director
Assistant Professor of Cyber Operations



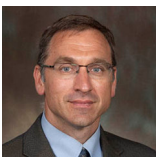
Keith Shomper, Ph.D., Lt. Col., USAF, Ret.
Cyber Center Faculty Fellow
Senior Professor of Computer Science & Cyber Operations



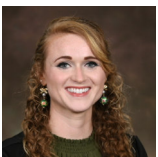
Patrick Dudenhofer, M.S.
Cyber Center Faculty Fellow
Associate Professor of Computer Science & Cyber Operations



David Gallagher, Ph.D., Lt. Col., USAF, Ret.
Senior Professor of Computer Science



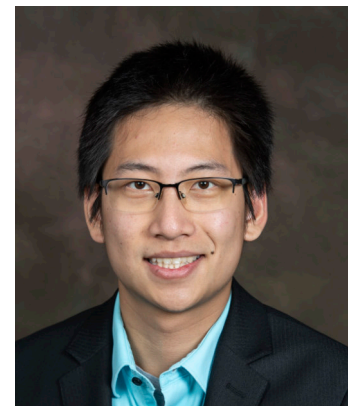
Eric Knoerr, M.S.
Assistant Professor of Computer Science



Stephanie Long, M.S.
Assistant Professor of Computer Science

New Cyber Center Research Assistant

We hired Kaicheng Ye last summer shortly after he graduated as our top Cyber Operations graduate. He is the Cyber Center's first Research Assistant and has made a huge impact. His first major task was transitioning our Cyber Range from the VMWare hypervisor to the free and open source product Proxmox, saving Cedarville tens of thousands of dollars in licensing fees. While there were risks involved in transitioning our Cyber Range close to the start of the school year, Kaicheng handled the installation and migration beautifully. Kaicheng is also enrolled in Georgia Tech's online Cybersecurity M.S. degree program and is making great progress. His love for the students and elite hacking and technical skills are a huge blessing to us.



Accolades



NSA National Center of Academic Excellence in Cyber Operations

1 of 22 in the USA **06/06/2018**

NSA National Center of Academic Excellence in Cyber Defense

1 of 450 in the USA **10/21/2021**



ABET Cybersecurity Accreditation

1 of 7 first cyber programs to receive this accreditation **09/17/2019**



Ranked #1 Accredited Cybersecurity Degree Program by Intelligent

9/17/2024



Ranked #1 Cybersecurity Bachelor's Program by Cybersecurity Guide

12/14/2023



Chief Information Officers Institute Top 16 Cyber Education Program

10/06/2021



Regional Programming Center of the Ohio Cyber Range Institute

11/02/2020



Educational Partnership Agreement with the NSA

01/31/2024



Educational Partnership Agreement with USCYBERCOM

03/28/2025

CYBER CENTER FACILITY

The Cyber Center facility continues to serve as the hub of innovation and excellence for our cyber students and faculty. This space provides an environment where learning, competitions, and fellowship come together to support our mission of developing tomorrow's cyber leaders.

Class Posters

Each year, class posters highlight our Cyber Operations students. Displayed in the Cyber Center lounge, these posters serve as a visual reminder of the legacy our students build year after year.



Cyber Center Challenge Coins and Tokens

The Cyber Center Challenge Coins remain a meaningful tradition within our program. These coins are awarded to recognize students' achievements and for serving our Cyber Center.



Cyber Center Pennants

Cyber Center pennants represent the accomplishments and hard work of our cyber team. Displayed in the Cyber Lab, the number of pennants continue to grow as the team competes and excels.



Cyber Center Merch

This year's cyber merch sale was a success once again. Cyber Center merch continues to provide students, alumni, faculty, and their families with a way to represent and promote the Cyber Center.





MARKED BY JESUS: MARK 11:1-25 — 2/23/2026 10:00 AM

Dr. White wearing the Cyber Quarter Zip during a Chapel message

Dr. G is Retiring

Dr. David Gallagher came to Cedarville in the late 1990s to start Cedarville's Computer Science program. He is beloved by students and is leaving behind an amazing legacy here. When he hired Dr. Hamman in 2012, he counseled him to attend the Air Force Institute of Technology for his Ph.D. and learn cybersecurity from the Air Force so he could start a cyber program at Cedarville.



Dr. Gallagher reading a Christmas story at our CS Christmas party on Oct 31. Why celebrate Christmas on that day?
Oct[al] 31 = Dec[imal] 25!

CYBER EVENTS IN REVIEW

Our rigorous academics are only one component of developing world-class cyber operators. Throughout the year, the Cyber Center hosts events that foster community and sharpen technical skills.

Annual Cyber Briefing

We kicked off the fall semester with our annual Cyber Briefing, welcoming students back to campus and launching a new year of cyber excellence. The event provided exciting updates, an overview of upcoming cyber competitions, and opportunities for students to connect.



Lockheed Martin Tech Talk

Lockheed Martin returned to campus for another outstanding technical presentation. This year's Tech Talk focused on "Reverse Engineering and Shellcode Extraction," giving students a deeper look into advanced cybersecurity techniques used in real-world environments.

Fuzzy Intelligent Control: From Power Systems to Combat AI

As part of our Cyber Speaker Series, adjunct faculty member Matthew Clark presented on Fuzzy Intelligent Control and its applications, ranging from power systems to combat AI. He explored the differences between fuzzy logic and neural networks while sharing insights from his professional journey in artificial intelligence. Students benefited not only from the technical discussion but also from hearing how his Christian faith has shaped his work.



Cyber Christmas Mid-Year Review

A new tradition was born this year with our first-ever Cyber Christmas Mid-Year Review. We handed out a plethora of challenge coins and challenge tokens to our cyber teams, recognizing outstanding success in competitions, leadership, and service throughout the semester. And in true cyber fashion, we debuted a special Christmas ornament shaped as a challenge coin featuring a hidden cipher challenge!



Cyber Debrief

We wrapped up the year with our annual Cyber Debrief, taking time to look back on the highlights of the past year and recognize the incredible work of our students. From competition successes to leadership and service, we celebrated what the Cyber Center has accomplished. The event also gave us an opportunity to honor our graduating seniors. And for once we had fresh fruit instead of pizza at an event!



DEVELOPING TOMORROW'S CYBER LEADERS

Proverbs 29:18 states, "Where there is no vision, the people perish." Biblical leadership is needed more than ever today, and it is our students who are stepping forward to meet that need by serving God in their spheres of influence. This year's leadership has enjoyed serving and advancing the cyber program.

Student Fellows

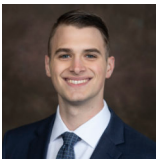
Student Fellows are hand-selected cyber student leaders employed to assist the Director in the day-to-day operations of the Center. They serve in their fellowships at the Director's discretion, typically fulfilling their roles to graduation.



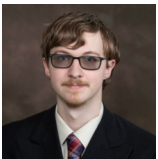
Stephen Reid '27 CS/CY
Chief Cyber Student Fellow



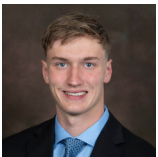
Clara Reeder '27 CS/CY
Student Fellow for Public Affairs



David Lamoreaux '27 CS/CY
Student Fellow for Leadership Development



Christopher Reed '27 CS/CY
Student Fellow for Cyber Exercises



Matthew Dudley '27 CS/CY
Student Fellow for Cyber Maneuvers

Cyber Scholars for Service

Thanks to Cedarville's status as an NSA Center of Academic Excellence, our cyber operators are eligible for the Department of War Cyber Service Academy. CSA is a scholarship-for-service program paying all education-related expenses including tuition plus a \$29,000 living stipend. In addition to the scholarship, students also receive a top job offer and a summer internship. Since 2020, 32 Cedarville students have been selected for this life-changing scholarship. We had 8 CSA scholars this school year and 8 more selected for next year! This is one of the most generous scholarship programs offered anywhere, period, and Cedarville students have been selected at a very high rate. Praise the Lord!



Cyber Leader Development Program

The Cyber Leader Development Program (CLDP) continues to equip students to grow not only in technical skill but also in leadership, initiative, and impact within the Cyber Center. Throughout the year, CLDP members were involved in new coursework, launched and led student-driven initiatives, and contributed to the broader cyber community both on and off campus. The CLDP remains a key part of developing the next generation of cyber leaders.



Cyber Operations alumnus was a guest speaker for our Basic Cyber Maneuvers class

Nation State Cyber Operations

This fall semester, the CLDP launched its first rendition of the third class in its curriculum: Nation State Cyber Operations. Nation State Cyber Operations is a one-hour evening seminar in which students analyze the doctrines, strategies, and major cyber operations of the key nation-state cyber actors in today's digital world. Each seminar provides students with the opportunity to engage in guided discussions and learn from lectures that connect cyber operations concepts to real-world events.

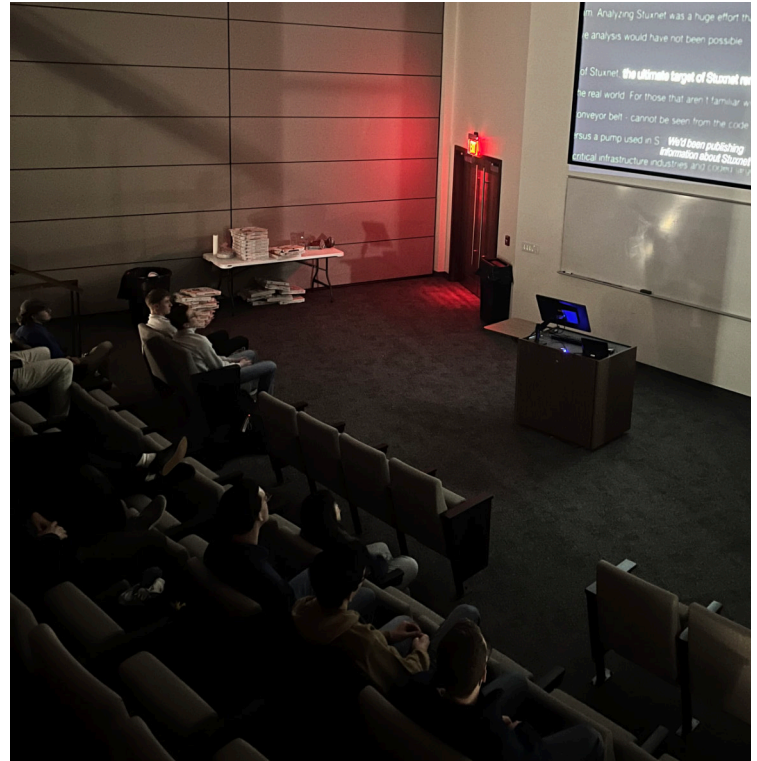


The course objectives were the following.

Students will be able to:

- Assess cyber doctrines and strategies of major nation-states.
- Articulate the essential history of the nations covered.
- Understand where each nation-state's cyber campaigns fit into the broader picture of global cyber warfare.
- Identify resources for future self-directed cyber development.

The major nation-states that were discussed were: The United States, Russia, China, Israel, Iran, and North Korea. With current world events, this seminar is clearly on target and will greatly benefit our CLDP members.



CLDP members watch a Stuxnex documentary

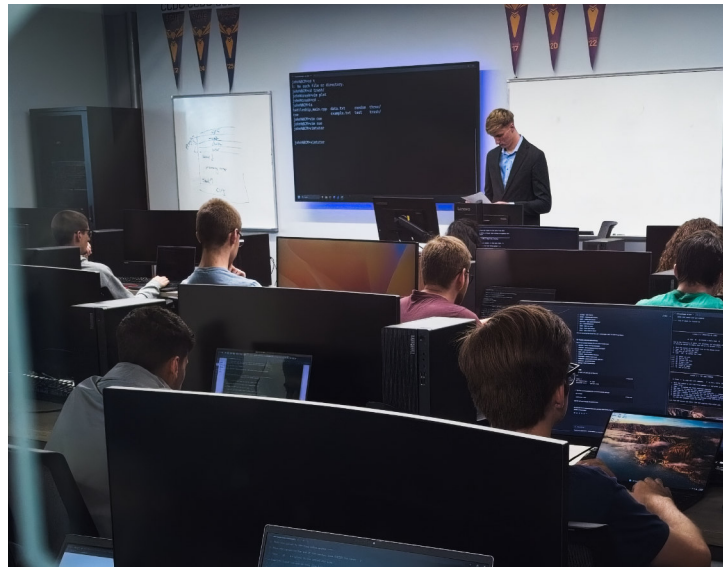
New CLDP Merch

The CLDP also acquired some new merch this year! The inaugural class of the CLDP are pictured below with our new CLDP Sweatshirt, which has the Cedarville Cyber Ops Stinger logo on the front and the CLDP seal on the back.



CLDP Members Leading New Initiatives

CLDP members stepped into key leadership roles this year by developing and leading initiatives that invested in both students and the broader community. Matthew Dudley led Cyber Maneuvers, continuing to grow both the Basic and Advanced courses as hands-on, student-led experiences that equip underclassmen with practical cyber skills and culminate in real-world simulations like CEDAR FLAG.



CLDP members Misha Semenov and Aaron Luke as well as Nick Sheldon, launched a new outreach initiative: CedarBits, a cybersecurity camp for middle school students. Through hands-on instruction and a final capture-the-flag exercise, the camp introduced younger students to cybersecurity while building meaningful connections with local families.

CLDP members also organized and delivered a series of Intro to Cyber career presentations designed to help underclassmen better understand career pathways. Each session focused on a different area of cybersecurity including offensive, defensive, and reverse engineering. David Moore and John Hardaway led the offensive cyber session, Clara Reeder and Misha Semenov covered defensive cyber, and Andrew Quick and Nathan Berlie presented on reverse engineering. These events not only informed students about career options, but also created opportunities for mentorship and connection within the Cyber Center.

Through these efforts, CLDP members are actively leading, teaching, and building programs that strengthen the Cyber Center and invest in others.

Nathan Shinabarger

Nathan Shinabarger is a cybersecurity researcher at MIT Lincoln Laboratory and a 2017 graduate of Cedarville University. He delivered a presentation on an OSINT (Open-Source Intelligence) course he recently completed through SANS, the leading cyber training provider. Prior to the event, CLDP members had the opportunity to share a meal with Nathan and engage with him informally. During his presentation, he demonstrated a variety of tools used in open-source intelligence and investigative analysis, also providing a case study in which a company presenting as "American" was ultimately traced to Russia. He also addressed best practices for online safety and provided practical guidance on how CLDP members can better protect their digital presence.



Col. (Ret.) Greg Thompson

Cedarville professor and Col. (Ret.) Greg Thompson spoke to the CLDP about offensive cyber operations, the Tallinn Manual, and how defensive cyber operations are much different than offensive cyber operations. The talk shed light on the weight of cyber operations in the military and how serious military action can be in that sphere. Professor Thompson consulted on several cyber missions during his time in the Air Force as a JAG officer. The CLDP found the discussion insightful, and several members were able to have a continued conversation with Professor Thompson after the talk.



Mike Ellingson

Mike Ellingson from Expedient Technologies came and spoke to the CLDP about Cybersecurity Maturity Model Certification (CMMC). CMMC is a framework that the federal government has been rolling out in the past few years and is becoming more and more relevant for businesses that do work for the DoW. Mike did a great job making the topic engaging and explained several career paths that CLDP members could pursue in the future. After the talk, several CLDP members were able to sit down with Mike for lunch and had a great conversation.



CLDP Banquet

As the year came to a close, students in the CLDP gathered for a special dinner focused on fellowship and recognizing the graduating seniors. The evening provided an opportunity to reflect on the year and to hear words of wisdom from our graduating seniors as they continue growing as cyber leaders.



Cyber Maneuvers

As part of the Cyber Leader Development Program, students participate in two student-led courses: Basic Cyber Maneuvers (BCM) and Advanced Cyber Maneuvers (ACM). Now in their third year, each course enrolls approximately 35 students, primarily underclassmen. Offered in addition to the standard undergraduate curriculum, these one-hour seminars are designed to provide hands-on, practical experience in core cyber disciplines. BCM emphasizes Linux, Windows, and networking fundamentals through guided TryHackMe labs. ACM builds on this foundation by exploring the Cyber Kill Chain and introducing fundamental offensive techniques, culminating in an in-house simulated cyber operation known as CEDAR FLAG.



CLDP Challenge Coin

For our first class of graduating CLDP seniors, we presented them with our brand new CLDP Challenge Coin! The CLDP Coin features the Cyber Center seal on one side, and the other side has the CLDP logo in the center surrounded by the three Scholar Expectations of the program:



- **Ancora Imparo:** "I am still learning"
- **Non Ministrari, Sed Ministrare:** "Not to be served, but to serve"
- **Non Ducor, Duco:** "I am not led, I lead"



Cedarville Cyber Team

Cyber competitions like capture-the-flags (CTFs) provide an unrivaled environment where cyber operators not only acquire technical skills but also practice tactical leadership. Our cyber teams consistently score high, a testament to the caliber of our program and our unwavering pursuit of excellence. This year, 116 Cedarville students competed in 10 different CTFs. Of special note, in the NCL Fall Individual Game, only 17 students out of 9,000 earned perfect scores, and 2 of those 17 were Cedarville students! Similarly, in the NCL Spring Individual Game, only 70 out of 8,000 received perfect scores, and 3 were from Cedarville! Read below for more information about our competitions.

- **Cyber Games:** The beginner cyber competition for NCAE schools.
- **Collegiate Cyber Defense Competition:** The national cyber defense competition.
- **National Cyber League:** The cyber competition for all individuals at all levels of education.
- **NSA Codebreaker Challenge:** NSA's cyber competition for individuals.
- **Collegiate Penetration Testing Competition:** The national cyber offense competition.
- **OCRI CTF:** Ohio's premier statewide cyber competition.

<i>Competition</i>	<i>Ranking</i>	<i>Cedarville Competitors</i>
CDCTF	6 th	11
CPTC	—	7
NCL Fall Power Ranking	3 rd	88
GoCyber CTF	1 st	3
NSA Codebreaker	12 th	32
NCAE Cyber Games Regionals	1 st	20
CCDC Qualifiers	1 st	8
CCDC Regionals	2 nd	8
CCDC National Wildcard	5 th	8
OCRI CTF	2 nd	26
NCAE Cyber Games Invitational	11 th	10
LU Cyber Summit	2 nd	11
NCL Spring Power Ranking	2 nd	73

9

Different Competitions

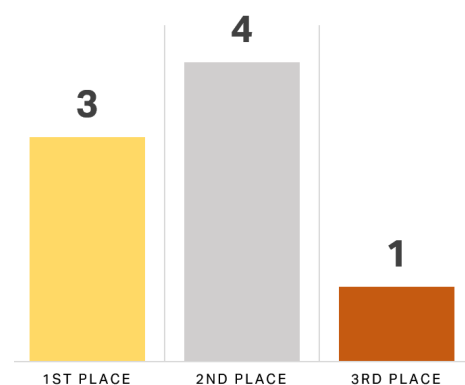
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Podium Finishes

116

Students Participated in at Least One
Competition

PODIUM FINISHES



Collegiate Cyber Defense Competition (CCDC)

This year's CCDC team saw success in their endeavors, winning the state qualifier competition by a large margin and taking second place in the Midwest Regional. In the National Wildcard, the team unfortunately fell short of the first place needed to advance to the National Competition. The team continues to improve its knowledge of blue team tactics in the business scenarios provided by the Midwest CCDC organizers. The knowledge gained through this competition assists team members in defending systems against adversaries in the future. Next year, the team hopes to be able to win the Midwest Regional to ensure a spot in the National Competition.



Collegiate Penetration Testing Competition (CPTC)

This year, Cedarville once again had the privilege of sending a team to compete in the Collegiate Penetration Testing Competition (CPTC). We competed in CPTC's Great Lakes Region, hosted by Baldwin Wallace University. CPTC provides teams with an opportunity to perform a penetration test on a simulated corporate network. This form of competition grants students realistic network exploitation experience and gives them unique insights into what it would be like to work in the field of offensive cyber. To streamline our exploitation process, we divided our team members into two specializations: web applications and Active Directory exploitation.

NCAE Cyber Games

NCAE is a competition focused on the blue team side of cybersecurity, defending from threats and maintaining systems. A competition of this nature ensures that students are given real experience as members of an organization that is undergoing a cyberattack and teaches them how to respond as cyber operators. In the Midwest Regional, our two teams competed long and hard, eventually placing 5th and 1st, edging out Syracuse University by a margin of two points for first place, with our first-place team being extended an invitation to Tampa to compete in the National competition. At Invitationals, our team placed 11th out of twelve teams. Though not the position we desired, we still managed to learn lots and have fun while doing it. One of the most important takeaways from the competition was not to rely on scripts as heavily as we did. The majority of our early-game strategy involved running three hardening scripts on every server. This defense method left the impression that the scripts were all-encompassing, where the player wouldn't need to do any hardening themselves (this is, of course, false due to the many backdoors that the Red Team had).



National Cyber League (NCL)

The National Cyber League is a virtual capture-the-flag competition held by Cyber Skyline. There are two seasons of competition: Fall and Spring. Each season contains multiple components, including a practice range, an Individual Game, and a Team Game. This year, we broke several school records! The first of this was in participation, where we recorded 90 registrants, more than double the previous record! We also had a record number of Cyber Center Challenge Coins distributed (54) at an increased threshold of 2000 points (compared to 1500 points from last year) to earn the coin. This is again double the previous school record. These developments contributed to Cedarville achieving a program first, a 3rd place ranking in the fall nationally among all competing schools. The following semester we broke the freshly set record, earning 2nd place nationally. **Matthew Dudley greatly contributed to this accomplishment, placing 2nd in the nation in the Individual Game.** We also had multiple teams that scored in the top 10 teams in the team games, taking 8th and 9th place, respectively. There were also multiple Cedarville students, Alexander Taylor, Jaden Butler, Matthew Dudley, Nicholas Sheldon, and Stephen Fair who achieved perfect scores. Overall, this year showed tremendous growth in our NCL competition and further solidified Cedarville's place as one of the nation's premier higher learning institutions for Cyber Operations.

Cyber Power Rankings				
		Fall 2025	National (College)	
Overall Rank	School	Team Rank	Individual Rank	Participation Rank
1	United States Coast Guard Academy	2	2	43
2	Monmouth University	9	1	21
3	Cedarville University	6	10	2
4	San Diego State University	4	15	16
5	Anderson University (SC)	8	8	11

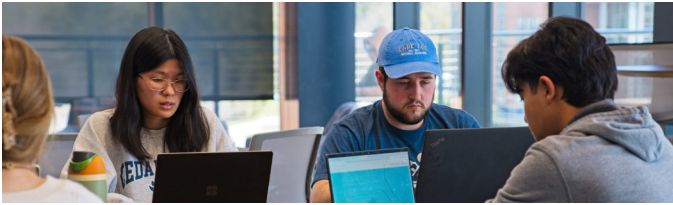
Cyber Power Rankings				
		Spring 2026	National (College)	
Overall Rank	School	Team Rank	Individual Rank	Participation Rank
1	Colorado State University - Pueblo	2	6	31
2	Cedarville University	6	1	3
3	University of Hawaii - West Oahu	4	10	22
4	Anderson University (SC)	1	17	12
5	United States Military Academy	3	16	23

Liberty Cyber Summit

The Liberty University Cyber Summit provided students with a hands-on experience modeled after a CCDC-style environment, with live services, injects, and red team activity. The primary goal was to create a low-pressure environment focused on growth, skill development, and shared learning.

OCRI CTF

The Ohio Cyber Range Institute's (OCRI) annual CTF is a team-based cyber competition that allows students to practice a mix of both offensive and defensive skills. Challenges consist of digital forensics, password and encryption cracking, network traffic analysis, vulnerability identification, and reverse engineering. This year, one of Cedarville's teams got second place, bringing home the prize of new Keychron keyboards.



GoCyber CTF

The GoCyber Collective's annual CTF is an offensive cyber-focused competition that grants students exposure to network scanning, CVE exploitation, hacking in a Windows environment, and local privilege escalation. It packages these complex concepts in an accessible and high-energy atmosphere, making it easy for beginners to get involved. This year, Cedarville's team once again won the competition.



Red Team Tradecraft

Red Team Tradecraft is a time for the students of the Cyber Center to explore the offensive side of cybersecurity by learning red team methodologies and performing penetration tests against both range machines and senior design projects alike. This past year, red team tradecraft has worked on an external project called Scriptoria, in which a group of five members assessed the security of a web application designed to help missionaries and mission organizations publish projects and documentation. Additionally, red team tradecraft has been building up their skills alongside the Collegiate Penetration Testing Competition Team by competing in King of the Hill challenges, learning about topics like Command and Control and vulnerability research, and supporting each other in the red team journey. Red Team Tradecraft hopes to grow in the coming year and take on more and more members to spread the skills that come with offensive cybersecurity.



Women in Cybersecurity

In 2021, female student leaders in our cyber program stood up Cedarville's chapter of Women in Cybersecurity (WiCyS). Our local chapter has flourished from the beginning, meeting a real need for creating connections and mentorship opportunities for the female students in our Computer Science and Cyber Operations majors. This school year, the ladies organized several successful events.



WiCyS Leadership

Mentorship

Throughout the year, the organization implemented a new mentorship program designed to pair freshmen with returning students. This initiative helped to foster relationships, provide guidance, and support new members as they transition into the university environment.

WiCyS Kickoff

The ladies of WiCyS gathered at the beginning of the school year to meet new students and catch up on their summers. We spent a few hours at Young's Dairy Farm chatting over ice cream.



Cookie Night

The WiCyS ladies, along with some alumni, gathered at Dr. Gallagher's house for dinner and an intense cookie-decorating battle! The competition was fierce, and the results were delicious!



Galentine's Day

WiCys members celebrated Valentine's Day together with fun snacks and drinks, board games, and bracelet-making and card-making for friends.

Witness in the Workplace

The WiCyS leadership organized an event that provided students with the opportunity to hear from faculty as they shared their experiences living out their faith in professional and academic settings. Through a panel discussion and time for questions, students were encouraged to think intentionally about how to represent Christ in their future careers as they prepare for internships and full-time roles.

Undergraduate Cyber Research



In 2025, the Cyber Center partnered with and received a grant from Lockheed Martin Advanced Technology Labs to conduct proprietary cybersecurity research. Under the guidance of Professors Nick Parry and Patrick Dudenhofer, a team of students engaged in this research primarily during the summer. The culmination of their work was presented in Washington, D.C., marking a significant milestone in their academic journey.

This collaboration is part of a longstanding partnership between Lockheed Martin and Cedarville's Center for the Advancement of Cybersecurity, which began in 2020. The grant not only facilitated faculty mentorship but also provided students with invaluable hands-on experience in the field of cyber operations. Many alumni from this program have been inspired to pursue careers in cybersecurity, reflecting the program's impact on shaping future professionals in the field.

New Freshman CTF

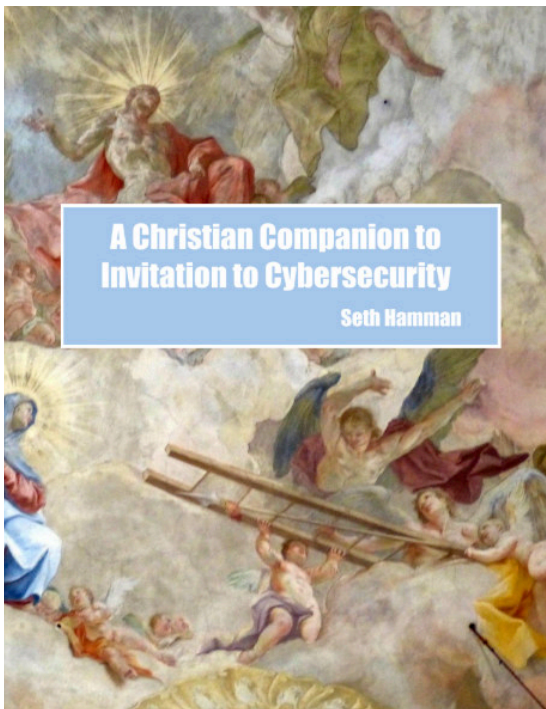
During move-in weekend before the first day of school, we held a CTF competition for our new Cyber Operations majors. This was a great way to introduce them to the cyber program and to one another.



SHAPING CYBER EDUCATION IN THE ACADEMY

Dr. Hamman Publishes Intro to Cyber Textbook

Dr. Hamman published his textbook *Invitation to Cybersecurity* last summer. This spring, between his online and in-person section, 112 students were enrolled in his CY1000 Intro to Cybersecurity course where his book was used for the first time. The students provided positive feedback for the book and the accompanying labs. The book is free online. See the book's website for more information.



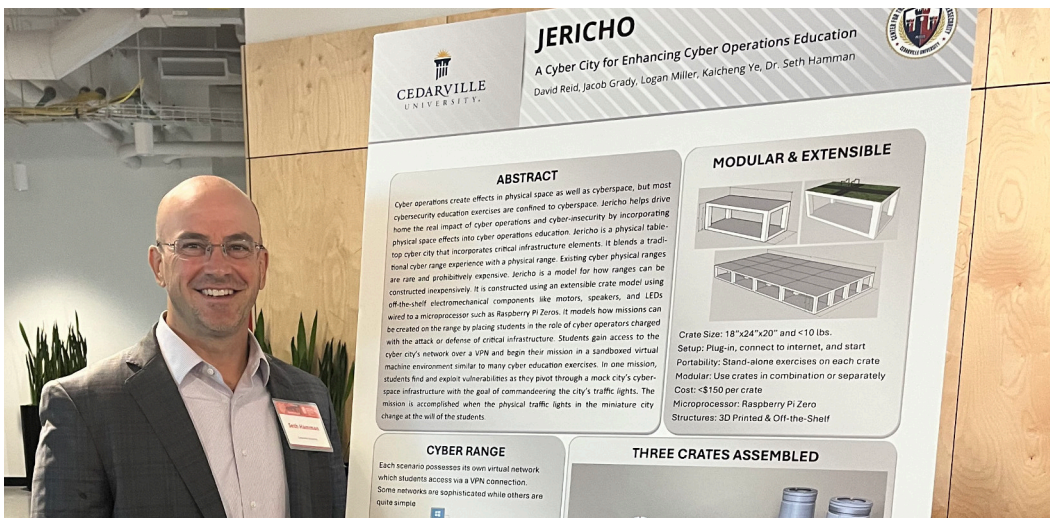
Click or scan here to view the textbook website



Dr. Hamman also wrote a part-biblical integration guide and part-devotional for his textbook called *A Christian Companion to Invitation to Cybersecurity*. In May, he presented his book and the Christian companion at the Association of Christians in the Mathematical Sciences (ACMS) conference at Calvin University in Grand Rapids. This is also available on the book's website.

Jericho: A Cyber Physical City for Cyber Education

For the second year, a senior design team has developed Project Jericho. By combining a virtual cyber range with physical effects, Jericho drives home the importance of cyber operations. The goal is disseminate our project so that other schools can affordably build their own cyber cities. Watch this promo video to learn more:



Click or scan this QR code to view the video

The Jericho poster presented at OCRI

Cedarville's Contributions to Cyber Higher-Education

Dr. Hamman made eleven trips this year for conferences and meetings with other cybersecurity educators.



Hamman at the CyberEd Workshop in New Orleans



Dr. Hamman at the Pentagon this Spring to discuss future directions of the NSA's CAE program.



Presenting at the Bridging the AI Gap Workshop in Maui



Dr. Hamman presenting from the main stage at the 2026 CAE Symposium in Pittsburg

Dr. Hamman Honored at CAE Symposium

The Centers of Academic Excellence Community honored Dr. Hamman at the 2026 CAE Symposium in Pittsburgh with an Outstanding Service award.



Circleville High School Honors Dr. Hamman

This March, the Circleville High School Alumni Association inducted Dr. Hamman into the CHS Achievement Hall of Fame. Dr. Hamman gave a short speech thanking his parents, the incredibly supportive community of Circleville, and God's grace in his life.



Cyber Senior Design Projects

Jericho: An Accessible Cyber City Model for Teaching Cyber Operations

Alex Taylor, David Moore, Nathaniel Gavilan, Andrew Quick

Traditionally, educational institutions have conducted cybersecurity exercises exclusively in virtual environments, reducing student awareness of the profound impacts cyberattacks can have in physical space and on critical infrastructure. The Jericho project targets students from secondary education to advanced undergraduate level. Jericho drives home the potential physical space effects of cyberattacks by blending virtual computer networks with a physical city model.

AutoMaestro – Cyber Recon Hunter Cup

Elijah Lewis, Gavin Montgomery, Anthony Ruffolo

AutoMaestro is an offense-focused, semi-autonomous cyber assistant created to boost the effectiveness of entry-level cyber operators during offensive operations. As Artificial Intelligence (AI) tools become widely implemented in cyber missions, challenges arise with their use. AI systems that are expected to operate autonomously over long time frames tend to decrease reliability. We demonstrate how AutoMaestro helps to overcome that limitation through a three-pronged approach: real-time confidence scoring, an isolated oracle-based sandbox, and focused multi-agent orchestration.

ChainSmith: ROP Chain Search and Generation Tool for LoongArch

Joel Craig, Charlie Lorenz, Quinn Daum, Annalina Lysne

Return-oriented programming (ROP) is a security exploit technique used to execute malicious code by chaining together small, existing instruction sequences called "gadgets" already present in a program's memory. ROP techniques exist for many instruction set architectures (ISAs); however, LoongArch, a modern, RISC-style ISA, is a relatively new architecture with very few ROP automation tools available. This project presents the design and implementation of an automatic ROP chain generator used to exploit LoongArch binaries, as well as features for the user to examine and explore the ROP gadgets in these binaries.

DNS Filter Web Application: Home Defense Internet Security

Jonique Chan, Aaron Summers, Jesse Mitra

The Home Defense product by CyberWeb Services is a web application that helps households manage DNS-based content filtering so they can reduce exposure to unwanted or risky sites while keeping configuration simple. After sign-up, each user receives a managed DNS profile (backed by a third-party DNS provider) and is guided through onboarding to choose how that protection is applied: whole-home coverage via the router, protection on a single device (for example, a laptop or phone), or browser-level setup with step-by-step instructions for major browsers. Regardless of path, the same policy model applies—users can work in block-list or allow-list modes, tune category and parental-style controls, and review DNS activity from a central dashboard rather than editing low-level network settings by hand.

RAVEN Defense: Enhancing Cyber Defense Through Machine Learning

Jeremy Johnson, Matthew Anderson, Xavier Gee

Modern cyber defense operations face increasing pressure as adversary breakout times continue to accelerate, with recent threat intelligence showing a reduction from over eighty minutes to under fifty minutes between 2022 and 2024. At the same time, Security Operations Centers must manage alert volumes that exceed sustainable human review capacity, contributing to alert fatigue and reduced analyst effectiveness.

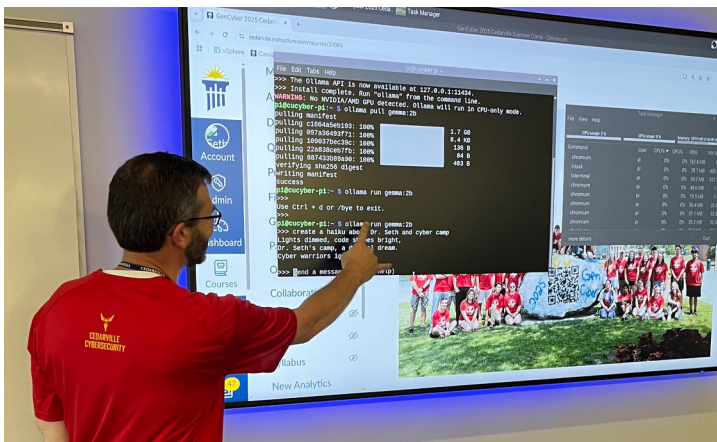
The Dirty Word Scanner: Document Scanning Suite

Ethan Burdett, Ethan Emery, Anderson Levasseur

The inadvertent inclusion of sensitive information such as passwords, API keys, and developer names in source code is a major security risk in modern software development. To prevent this the Dirty Word Scanner team, in collaboration with Cryptic Vector, developed a pair of applications to aid in the reduction of leaking sensitive information.

NSA GenCyber Summer Camp

A large group of approximately 30 students and faculty members are posing for a group photo on a grassy lawn. They are arranged in several rows, with some standing and others kneeling or sitting in the front. Most of the individuals are wearing red t-shirts featuring a circular logo with a mountain and a tree. In the center of the group is a large, light-colored rock. On the rock, there is a large QR code, the letters 'CU' in yellow, the year '2025' in blue, and the words 'Gen Cyber' in blue. The background shows a brick building, trees, and a clear sky. A black lamppost is visible on the left side of the image.



CedarBits - Cyber Camp for Middle Schoolers

For the first time ever, the Cyber Center hosted a cybersecurity camp for middle schoolers designed to give them a hands-on introduction to cybersecurity fundamentals and guide them in how they can use cybersecurity to love their neighbors. The camp took place in the Cyber Lab where the 20 campers were taught by student leaders and performed in-class operations that covered cybersecurity topics including Linux CLI basics, networking, cryptography, password safety, and ethical hacking. This camp was done in conjunction with the Jericho senior design project, where Jericho provided the virtual machines and range infrastructure for the campers to use. In addition, the exercise on the final day was a multi-target CTF on the Jericho range that engaged the Jericho live effects.

CedarBits began as an idea the previous fall for a potential community outreach opportunity. Since its inception, CedarBits was designed to bless the local Cedarville community, introduce cybersecurity to the bright minds of the younger generation, and provide an opportunity for local families to engage with Cedarville and the Cyber Center in a way they couldn't before. The accomplishment of these goals culminated on the last day of camp. Families were invited to the Cyber Center to watch the live CTF exercise and stay for a pizza party, where they could see what their campers were learning, engage with student leaders, and fellowship with fellow Cedarville families. The student leaders worked hard to design the content and create the tools necessary for a fun and memorable camp experience. They also supported the students in the classroom during the camp. The camp was a big blessing to both the families who participated and the Cyber Center.



Intro to Cyber for CU Senior Nursing Majors

For the past several years, Dr. Hamman has been invited to give a guest lecture on cybersecurity to the senior nursing majors. He visits twice in the Spring as the senior seminar is split into two sections. Half of this year's seniors are in the photo below. He talks about cyber and health care and staying safe online.



Ohio Representative Ty Mathews Visit

Ohio House of Representatives member Ty Mathews, Cedarville class of 2018, visited the Cyber Center this Spring to learn more about CU's cyber program and to discuss state priorities in cybersecurity.



Cedarville Press Releases

Cedarville Press Releases highlight key achievements, events, and milestones from the Cyber Center throughout the year. These articles showcase the impact of our students, faculty, and programs, helping share the story of the Cyber Center with the broader Cedarville community and beyond.



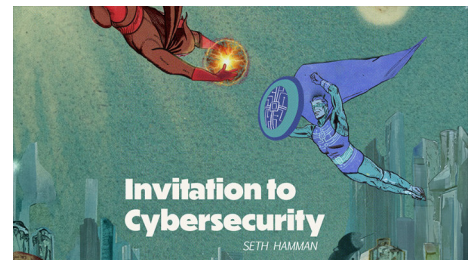
A Commitment to the Value of Cyber Education

Cedarville University, among the nation's top three evangelical Christian universities, is committed to preparing professionals to defend individuals, corporations and nonprofits in today's increasingly digital world.



Cedarville Ranked No. 1 Cyber Program in Ohio

The 2025 Cybersecurity Guide named Cedarville's undergraduate and graduate programs in cybersecurity No. 1 in Ohio and No. 3 nationally. Additionally, the programs are the most affordable in Ohio.



New Book Helps Readers Fight Cybercrimes

To help educate people about cyber threats, Cedarville University's Dr. Seth Hamman, director of the Center for the Advancement of Cybersecurity and professor of cyber operations and computer science, has written "Invitation to Cybersecurity."



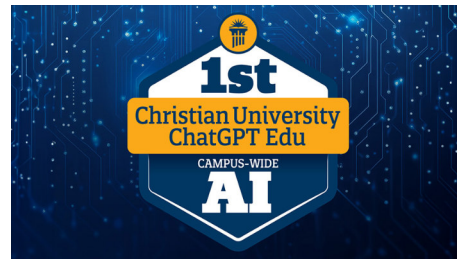
Cedarville Expands National Security Ties With U.S. Cyber Command Agreement

A new three-year partnership with U.S. Cyber Command will help Cedarville University prepare the next generation of cybersecurity professionals.



Forged by the Sea: Cedarville University's Pathway to Naval Careers

Since the early 2000s, Cedarville University students have been awarded competitive military and defense scholarships, including those tied to service in the Navy and the National Security Agency (NSA).



First Christian University Campus-Wide AI Initiative

Cedarville University announced it is becoming the first evangelical Christian university to provide its entire campus community with ChatGPT Edu. With this announcement, Cedarville is also the only university in Ohio to implement ChatGPT Edu campus-wide.



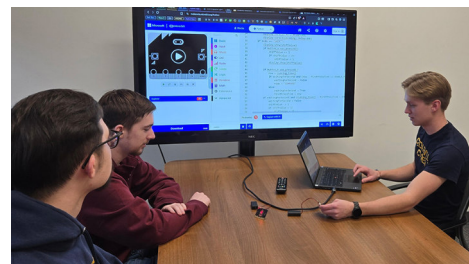
CyberWeb Protects NonProfits and Churches

Adam Dyer, Cedarville University's Information Security Analyst, is actively working to equip others with online protection tools and the knowledge to defend themselves.



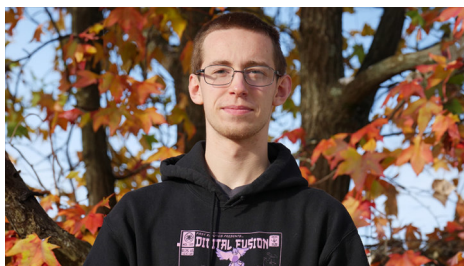
Cedarville, Geneva Launch Career-Boosting Partnerships

Students and professionals pursuing a career in health care, higher education or cybersecurity now have a clearer path as the result of three new agreements between Cedarville University and Geneva College.



Cybersecurity Camp Launched for Middle School Students

Cedarville University students launch CedarBits, a four-week cybersecurity camp that introduces middle schoolers to digital safety through hands-on projects and critical thinking.



Dual Enrollment Student Helps Win Cyber Title

Cedarville won a Midwest divisional title at the NCAE Cyber Games on Feb. 7, 2026, after seven hours of live cyber defense. Dual-enrollment senior Kieran Klukas was instrumental and placed 120th in the National Cyber League.



Cedarville Ranks Third in National Cyber League Competition

Cedarville University cyber operations students placed third in the National Cyber League last fall as AI-driven attacks intensify and cybersecurity jobs go unfilled. Two students earned perfect scores, and the team will compete again in April 2026.



IBM Consultant Helps Bridge Cloud Strategy and Cybersecurity

Christian Eppich, a 2025 Cedarville computer science graduate, now works as an IBM associate consultant, helping connect cloud strategy and cybersecurity with business needs while applying leadership, ethics and technical skills developed in college.

Cyber Operations Graduates

We know that the Lord is blessing Cedarville's cyber program so that our students will go from here to advance His purposes in cyberspace. This year 43 godly young men and women graduate from our computer science and cyber operations program, and we know that the Lord has big plans for them. We are so grateful that He brought them to study with us for 1,000 days at Cedarville. This group was truly an outstanding class that is leaving behind a legacy that will bless future students.



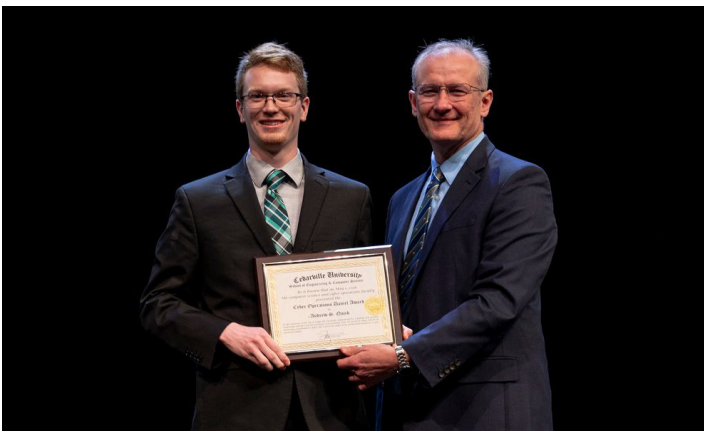
We graduated 43 seniors this year! 24 CS, 8 CY, and 11 CS&CY double majors



Kenneth Burrill receiving the Cyber Operations Outstanding Senior in Design Award



Alex Taylor receiving the Cyber Operations Outstanding Scholar Award



Andrew Quick receiving the Cyber Operations Daniel Award



Zaine Fletcher receiving the Cyber Operations Outstanding Leader Award

Student Testimonials

The foremost part of the Cyber Center's threefold mission is to develop tomorrow's cyber leaders in the classroom. The Center strives to bless its creative and diligent cyber students who attend Cedarville, molding them into seasoned cyber operators. Included here are testimonials from a few of the many students the Center has impacted.

David Moore



When I reflect on my thousand days at Cedarville, the Cyber Team stands out as the most impactful organization I have been part of. Competing with the Cyber Team granted me numerous opportunities to develop my technical skills and leadership skills. Through competitions such as CCDC, CPTC, and NCL, I was able to gain hands-on experience with a variety of technologies and skill sets that are in high demand in the workforce.

When paired with Cedarville's rigorous cyber program, these competitions prepared me to do well in the job market and succeed after graduation. They helped me distinguish myself from the internship applicant pool, which led to receiving a large scholarship, internships, and a job offer.

Additionally, leading competition teams and participating in the CLDP helped me develop my leadership skills, connect with my peers, and grow as a person. The Cyber Team provided me with excellent opportunities to get to know and learn from my classmates and to engage with people I may have otherwise never met. My time with the Cyber Team has been truly formative, and I'm immensely thankful for the opportunities it granted me.

Annalina Lynse



Going into my first Cyber class as a freshman four years ago, I was excited to learn about computers, but I did not realize how many other ways the Cedarville Cyber program would bless me. My professors' faith infused everything they did, whether they were teaching the class or advising me. In the Cyber Team, the students shared their knowledge, not just out of necessity, but for the joy of imparting their experiences to their peers. I have many good memories of staring at Linux terminals for hours with my teammates, going mutually insane. Usually, we solved the problem we faced, and sometimes we did not, yet we always left the scenario telling jokes and improving in our skills. This has encouraged me to enjoy difficult tasks and view them as an opportunity to learn. It has been very cool to see all the places my classmates are working after graduation, and I hope to run into some of them again in the future!

Nicholas Sheldon



I cannot begin to describe all the ways that involvement with the cyber center has affected both my personal life and my skills. I have met some absolutely incredible and talented people who have not only fostered my ability to grow my skills, but also to act as an endless source of knowledge and feedback. I can't say that I would be where I am today without those people.

Additionally, the Center has given me so many opportunities to lead and help other students grow. Whether it be the Freshman Cyber CTF, which we do for the freshmen during Getting Started weekend, or captaining our Collegiate Penetration Testing Competition team, I can build my leadership skills while also being able to do what I love: serve others in the same way I was served before.

A NOTE ON AI

I have traveled to multiple meetings the past couple years with other cybersecurity educators, and the main topic of our discussions is always the same: what do we need to do to prepare our students for the age of AI? I served on the leadership team that formulated the NSA's AI knowledge units and am now on a steering committee to create the blueprint for the new National Centers of Academic Excellence in AI designation (CAE-AI). In these roles I've heard all kinds of viewpoints, and I have been following industry news, including the ground-breaking cybersecurity results produced by Anthropic's Mythos. Amidst all of this, it is difficult to know where AI will plateau and how dramatically it will change the cyber workforce, but here are some conclusions I've come to:

1. We must expose our cyber students to AI. AI is impacting cyber and software development sooner and more dramatically than other lines of work. This makes sense because in order to work in these fields, we humans have to learn to think like a computer—for obvious reasons, AI is well-suited for these kinds of logical and narrowly-defined tasks. Already our students can't compete at the highest levels in cyber competitions unless they are using AI, and these competitions are a good benchmark for success in the cyber industry.
2. We must continue to teach our students cyber and computer science fundamentals. While AI will take the first stab at analyzing software for vulnerabilities and writing exploit code, the best workers in the field will be those that understand the fundamental tasks AI is performing and can guide its actions and verify its results. Treating AI as a black box may produce okay results in some circumstances, but it is limiting and dangerous.
3. Professional skills are becoming even more important. Low-level technical skills are being commoditized by AI. Organizations will be counting on humans to leverage AI tools ethically and with common sense. Character will be in increasingly high demand along with discernment and the ability to communicate with others.

Cedarville is well-positioned to move forward. This past school year we created AI tracks in both our Computer Science and Cyber Operations majors, adding new AI elective courses. We have also started incorporating AI into classroom projects, and our senior design teams worked on cutting-edge AI projects this year. We are continuing to modify our core curriculum to force students to use AI to augment their abilities and increase their output, especially in our upper-level classes.

Overall, we have been encouraged to see that our students don't want to just hand everything over to AI—they want to understand how things work. They not only see the value in this, but they also derive satisfaction like all the previous generations of computer scientists that came before them in mastering the fundamentals. They are not as excited about the AI hype as many people in the older generations, perhaps seeing it as a threat to their future contributions to society. This helps motivate them to not just hit the AI "easy button" but to work hard and learn.

And with regard to the third point above, Cedarville students, in part through our liberal arts core and Bible minor, have always differentiated themselves from the crowd with their professional skills and character. Our four core values are repeatedly emphasized to students throughout their time on campus: Love for God, Love for Others, Integrity in Conduct, and Excellence in Effort. Committing to these four things will take them far in the age of AI and in any other age!

CONNECTION OPPORTUNITIES

Are you interested in partnering with us to develop tomorrow's cyber leaders in the classroom while advancing cybersecurity in our nation? If so, here's how:

- Support our Cyber Teams as they compete in cyber exercises around the U.S.
- Share your industry insights with us via a speaking engagement.
- Sponsor an engineering senior design project.
- Tour Cedarville's cyber facilities to better understand our mission.
- Invest financially to create enhanced learning opportunities for our students.

Contact us via email cybercenter@cedarville.edu or Instagram [@cucybercenter](https://www.instagram.com/cucybercenter).

More information

- Cyber Center website: cedarville.edu/cybercenter.
- Cyber Operations Major website: cedarville.edu/cyberops.
- Cyber Team website: cyber.cedarville.edu.

Partners



