

2024 Winter ICT Educators' Conference Breakout Sessions

BREAKOUT SESSION 1 – Thursday, January 4th, 10:30 – 11:20

[A1] Network Automation with Python and Netmiko for Beginners (Room: Kistler)	Rick Graziani Cabrillo College	Show your students that networking professionals get to code too! This presentation will introduce you to how to display Cisco IOS output and configure Cisco IOS devices using Python and Netmiko. We will keep it simple, so even if you are new to either Python or Cisco IOS, or both, you can get started. And the more you learn about Python and IOS, the more you will be able to do with Netmiko. We will also compare the differences between Netmiko, NAPALM and NORNIR..
[B1] AI has Gone Viral, Filling the Skills Gap (Room: Silver Oak/Jordan)	Jordan Morrow DataPrime	AI has been around for decades but really went mainstream with the launch of ChatGPT. The world was already data driven and now, AI has gone "viral". What can individuals and organizations do with data and AI? Do we have a skills-gap we need to fill? Come hear Jordan Morrow, Godfather of Data Literacy, as he helps shape the world of data and AI literacy for you.
[C1] Year 3 – Increasing Diversity in the Cybersecurity Talent Pool through CyberCamps & Competitions (Room: Cakebread)	Denise Moss and Elizabeth Shaw Bay Area Cyber League	Come learn how to use CyberCamps & Competitions to spark your students' interest in cybersecurity. Join us a for a mini-CyberCamp and competition training...become a CyberCamper...and have fun!.
[D1] The X factor for Today's Workers: Digital Fluency to Industry Expertise (Room: Beringer)	James Stanger CompTIA	People need strong education pathways. In this presentation, CompTIA's Chief Technology Evangelist, Dr. James Stanger, will discuss research from the latest Workforce and Learning Trends report and other sources to discuss the unique combination of skills that organizations are looking for in today's workers. James describes this unique combination as the employee X factor. James will discuss the continuum of competencies that organizations crave, from digitally-fluent workers, to IT professionals that possess that something extra.
[E1] Teaching Cryptography and Steganography with CrypTool (Room: Caymus)	Jiri Jirik Education Pathway National Center	This session's objective is to showcase hands-on lab experiences that introduce students to cryptography. The labs provide assessment of students' skills through the creation and analysis of cryptographic systems, as well as the proficient utilization of steganography techniques across different media. This session will furnish you with valuable tools to nurture students' inquisitiveness and enthusiasm for the realm of cryptography.
WORKSHOP: (10:30–12:20) [F1-2] Hands-On with the Raspberry Pi/Pico (Room: Opus One)	Bill Saichek San Jose Engineering Technology	Bill Saichek, will be filling in for Kerry Bruce. Kerry fractured his knee and was not able to make the trip up to San Jose. Bill and Kerry have collaborated many times. They have worked together to provide you with this hands-on workshop. You will build an Internet-connected Sensor/Actuator IoT system using Raspberry Pi, Raspberry Pi Pico, and Python Programming.



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BREAKOUT SESSION 2 - Thursday, January 4th, 11:30 – 12:20

<p>[A2] Cloud Camp! Summer Programs to Increase Enrollment and Engagement (Room: Kistler)</p>	<p>Karen Ahern and Larry Rodis College of Southern Nevada</p>	<p>Summer programs are an effective way for student on-ramping, and can energize students, increase enrollment, and draw awareness into new fields of study. The College of Southern Nevada hosted their first five-day, summer Cloud Camp partnering with AWS to introduce students to Cloud computing and provide them and AWS Practitioner certification voucher. The bootcamp was funded by a grant from the NSF Advanced Technician Education program designed specifically for community colleges to fund projects that support the development of technology programs. During this session participants will learn about the agenda, labs, games, expenses and our recommendations for improvements for our next summer boot camp in 2024.</p>
<p>[B2] Network Emergency Response Vehicle (NERV) (Room: Silver Oak/Jordan)</p>	<p>Eric Knudson Cisco Crisis Response (CCR)</p>	<p>Cisco NERVs: speeding to disasters with fast, secure connections. Through storms, wildfires, or cyberattacks, Cisco's Network Emergency Response Vehicles provide world-class communications. When disaster strikes, reliable, secure connections are essential. But if critical infrastructure is down, coordinating responses can be nearly impossible. That's why Cisco's Network Emergency Response Vehicle (NERV) 2.0 can help save the day.</p> <p>By integrating a wide array of Cisco and Cisco Meraki communications, collaboration and hyperconverged server technologies in a rugged yet agile four-wheel-drive mobile platform, the NERVs are ready for just about any contingency, whether caused by storms, wildfires, cyberattacks, chemical spills, or other unexpected events.</p>
<p>[C2] Enhancing Cloud Security Expertise: A Guide to CSA's Educational Pathways (Room: Cakebread)</p>	<p>Anna Campbell Schorr Cloud Security Alliance</p>	<p>In an era where cloud technology underpins a significant portion of IT infrastructure, the Cloud Security Alliance (CSA) stands as a beacon for cloud security education. CSA's educational offerings are meticulously crafted to meet the needs of educators from high schools to universities, aiming to impart critical skills for students' future employment in the tech-driven marketplace.</p> <p>The presentation will provide an overview of CSA's educational resources, which are grounded in vendor-neutral research. Attendees will be introduced to a range of training and certification options.</p> <p>Attendees will learn how CSA's educational resources offer a comprehensive pathway for educators to enhance their teaching arsenal and prepare students for the cloud-centric job market. By integrating CSA's training into their curriculum, educators can ensure that their students are well-equipped with the knowledge and skills to navigate and secure cloud environments effectively.</p>
<p>[D2] Building the Workforce of the Future (Room: Beringer)</p>	<p>Karin Childress Randstad - Workforce Innovation</p>	<p>To tackle talent and skill scarcity we are thinking outside the box. Korn Ferry predicts that by 2030, demand for skilled workers will outstrip supply, resulting in a global talent shortage of more than 85.2 million people - making talent and skill shortage the single greatest threat to technology and innovation.</p> <p>The Randstad Digital Academy is an ecosystem of innovative inclusion partners, educational institutes and upskilling and redeployment programs, which when leverages by both learners and employers are creating a diverse and inclusive talent pipeline to solve the biggest talent and skill challenges of the future.</p> <p>In this session learn how Randstad is thinking about the problem and how we can work together to solve it.</p>
<p>[E2] From Classroom to Contest: Equipping Teachers and Training Students for Cybersecurity Competitions (Room: Caymus)</p>	<p>David Zeichick NCL and NIST</p>	<p>"From Classroom to Contest: Equipping Teachers and Training Students for Cybersecurity Competitions" aims to provide a straightforward and practical guide for educators looking to prepare students for the realm of cybersecurity competitions. The presentation focuses on delivering actionable strategies, resources, and teaching methodologies that are pivotal for creating a robust learning environment and preparing students for various cybersecurity challenges. The intent is to facilitate effective learning and skill acquisition, ensuring that both teachers and students are well-prepared to navigate and succeed in cybersecurity competitions.</p>



BREAKOUT SESSION 3 - Thursday, January 4th, 1:30 – 2:20

<p>[A3] Websockets and Webhooks: Embed Network Intelligence into your Applications (Room: Kistler)</p>	<p>Adrian Iliesiu Cisco</p>	<p>In this session I will introduce the audience to websockets and webhooks and Cisco products that expose these two interfaces. From what are websockets and webhooks, to how to use them in the best way, to Python sample code, this session will showcase the power of these two interfaces and how to integrate the network intelligence that they expose into software applications in order to make them more resilient and fail-proof.</p>
<p>[B3] Capture the Flag Cybersecurity Competition Pilot (Room: Silver Oak/Jordan)</p>	<p>Kristen Narreau Cisco http://cs.co/RegisterCTF</p>	<p>Join us to compete in the CCST Cybersecurity Capture the Flag competition pilot. NetAcad is creating CCST Cybersecurity (aka Cybersecurity Essentials) competition materials and we are asking instructors to go through the competition as a competitor and provide feedback. Plans are being made for a student competition pilot later in the year. Watch for additional information around registering for the competition and prepping for the content.</p>
<p>[C3] Enable Social Justice with AI (Room: Cakebread)</p>	<p>Vanessa Russell Love Never Fails Us</p>	<p>Vanessa Russell is the Founding Executive Director of Love Never Fails (www.loveneverfailsus.com), a national anti-trafficking organization that provides housing, workforce development, and prevention education for and with survivors of human trafficking. Explore with Vanessa the creation of AI programs and applications that serve and employ underserved community members.</p>
<p>[D3] Why “Soft Skills” Are So Important: Defeating Cowboy IT (Room: Beringer)</p>	<p>James Stanger CompTIA</p>	<p>For years, now, I’ve heard pundits and presenters state that “soft skills” or “durable skills” are important for IT workers. Yet, I’ve rarely ever heard anyone explain exactly why they have become so important. I’m a root-cause kind of person. So, at CompTIA have leaned into this topic. We’ve conducted extensive research, and talked with practitioners and execs alike about how we can collectively do a bit better.</p> <p>The short answer is, as you might expect: We need better communicators and true process maturity to overcome years of bad IT practices, and implement today’s disruptive, exponential technologies. I call these bad practices, “Cowboy IT.” Getting out of Cowboy IT this isn’t all that simple – one doesn’t simply walk out of the Wild, Wild West. Join me as I discuss the nuances of what “better communication” and “process maturity” means in the face of long-standing worst practices that I call “Cowboy IT.”</p>
<p>[E3] Guiding and Inspiring Students Towards Cybersecurity Pathways (Room: Caymus)</p>	<p>Kristine Christensen & John Sands Moraine Valley CC / EPNC</p>	<p>Join us for an engaging workshop that will provide you with the knowledge, tools, and resources that will help inspire students towards an exciting and rewarding career in cybersecurity. We’ll explore the diverse world of cybersecurity careers, from protecting our nation’s infrastructure to developing innovative security solutions and auditing cybersecurity systems. You will also learn about online tools for finding cybersecurity job openings, academic scholarships, and extracurricular opportunities that can help your students build their skills and experience. We will also discuss how to partner with businesses and industry leaders to provide your students with real-world learning experiences and opportunities to network with potential employers.</p>
<p>WORKSHOP: (1:30 3:20) [F3-4] Introduction to Machine Learning (Room: Opus One)</p>	<p>Sam Bowne City College of San Francisco</p>	<p>Covers machine learning functionality, attacks, and defenses. We'll attack public Large Learning Models with prompt injection and make custom machine learning models with Python. We'll create various models including linear regression, polynomial regression, and Support Vector Machines, train them, and evaluate their performance. Projects include computer vision, breaking a CAPTCHA, deblurring images, regression, and classification tasks. We will perform poisoning and evasion attacks on machine learning systems and implement deep neural rejection to block such attacks. No experience with programming or machine learning is required, and the only software required is a Web browser. We will use TensorFlow and SecML on free Google Colab cloud systems.</p> <p>All materials and challenges are freely available at samsclass.info and will remain available after the workshop ends.</p>

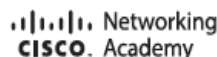
BREAKOUT SESSION 4 - Thursday, January 4th, 2:30 – 3:20

<p>[A4] Intro to Meraki Dashboard API Python Library (Room: Kistler)</p>	<p>Adrian Iliesiu Cisco</p>	<p>This session introduces the attendees to the Meraki Dashboard API Python Library from installation and versioning to using the library and discussing sample code that covers simple use-cases: get a list of all the clients from all the networks in an organization, create a new network, create a new wireless SSID, etc.</p>
<p>[B4] ChatGPT and Network Forensics (Room: Silver Oak/Jordan)</p>	<p>Laura Chappell Chappell University, CEO vConDev Team</p>	<p>The rapid development of artificial intelligence and natural language processing technologies has introduced novel methods for solving complex problems in various domains, including network forensics. This presentation delves into the capabilities, versions, and applications of ChatGPT, a state-of-the-art language model developed by OpenAI, to assist cybersecurity specialists in combating cybercrime.</p>
<p>[C4] Princesses with Powertools: The Power of Diverse Role Models in STEM (Room: Cakebread)</p>	<p>Caeley Looney, Dr. Kimberly Fiock and Ayesha Iftiqhar Reinvented Inc.</p>	<p>In this fireside chat style presentation, attendees will hear first-hand accounts from women in STEM from across a wide range of disciplines on why diverse role models in underrepresented fields matter. Caeley, Kimberly, and Ayesha will offer advice and insight on how role models in their own lives have helped lead their careers down successful pathways and how they serve as role models to the next generation of learners. From spotlighting the statistics behind the gender gap in STEM fields to personal stories from women succeeding in neuroscience and engineering, viewers will walk away with new ideas on how to better engage all of the students in their STEM classrooms.</p>
<p>[D4] Building Student-Employer Pipelines through Cisco Apprenticeship Program (Room: Beringer)</p>	<p>Katie Adams and Angela Baker Safal Partners</p>	<p>Cisco Networking Academies have a new tool to accelerate students' career pathways and build high-value partnerships with local employers. Through its work with Safal Partners, a US Department of Labor (DOL) national Industry Intermediary, Cisco is rolling out its quick-start DOL-approved national guideline standards that your Academy can use to start or expand an industry-validated apprenticeship program for three in-demand occupations. In this session you'll learn the key components of apprenticeship, how to access no-cost apprenticeship expertise and ongoing support from Safal, and next steps including takeaway tools.</p>
<p>[E4] Splunk Academic Alliance Program Preps the Next Generation of Cyber Defenders (Room: Caymus)</p>	<p>Carol Wright and Eric Fusilero Splunk</p>	<p>Join us! The Splunk Academic Alliance Program preps the next generation of Splunk users to create a more resilient cyber workforce. The program provides nonprofit colleges and universities access to training and certifications globally at no cost. Learn how the program is training the workforce of tomorrow in cybersecurity through real-world, hands-on learning. Find out more about the Academic Alliance Program and the right training for your Splunk journey.</p>

Hosted by Western Academy Support and Training Center (WASTC), Cisco, and the Cisco Network Academy Program



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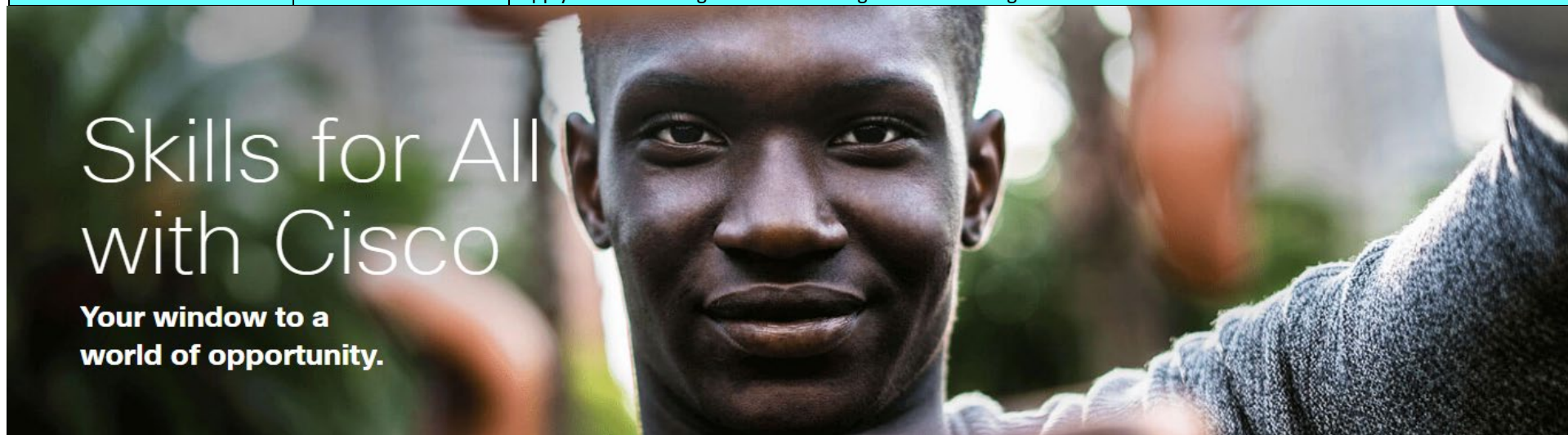
BREAKOUT SESSION 5 - Thursday, January 4th, 3:30 – 4:20

<p>[A5] Getting Started with Docker (Room: Kistler)</p>	<p>Don Aragon San Diego Community College</p>	<p>This presentation will focus on the essentials of Docker containers. The goal is to become familiar with the technology and provide examples.</p>
<p>[B5] Teaching APIs with MapQuest (Room: Silver Oak/Jordan)</p>	<p>Bruce Brumley City College at Montana State University Billings</p>	<p>This session will demonstrate how to use MapQuest to create an API application. We will use Postman to identify required fields and then program in Python. Instructions will be presented using Trinket.io, Thonny, and Visual Studio Code for coding the application. Bring your laptop for a more hands on experience</p>
<p>[C5] Creating a Salesforce Course in Canvas Using Trailhead (Room: Cakebread)</p>	<p>Kim Turner Cabrillo College</p>	<p>I have created two courses called CRM Tech 1 and CRM Tech 2 which teach students about Customer Relationship Management using Salesforce. These courses utilize Trailhead.com which is a site that Salesforce created to train users on all aspects of the platform. My goals are to promote the teaching of Salesforce to students and to share how I was able to create a training progression (called a Trailmix) in Trailhead for my classes using Canvas as the LMS.</p>
<p>[D5] California C-ID for IT/IS: Exploring Future Directions (Room: Beringer)</p>	<p>Markus Geissler, Richard Grotegut and Keith Clement Cosumnes River College, SJSU, CSU Fresno</p>	<p>"Since the inception of California's C-ID supra-numbering system in 2014, more than 400 course outlines of record have been approved in the Information Technology & Information Systems (ITIS) disciplines, including IT Cybersecurity, and more than 600 course outlines in the Computer Science discipline, with an approval rate of nearly 80 percent. While these efforts have fostered a more cohesive set of course offerings for California community college students, they have not yet resulted in Transfer Model Curricula (TMCs) which could be widely adopted. The C-ID ITIS Faculty Discipline Review Group is soliciting faculty input on how we might need to update the current set of ITIS descriptors and model curricula, especially as they relate to Cybersecurity. We are also looking for faculty feedback on how closely any descriptor revisions should be associated with vendor-provided curricula, and we plan to brainstorm strategies for how to make it easier for our Information Technology and Cybersecurity students to move on to bachelor's degree programs."</p>
<p>[E5] The Human Touch: Safeguard Tomorrow's Digital World — Building Cyber Resilience and Enabling Security at Scale (Room: Caymus)</p>	<p>Juliet Okafor RevolutionCyber</p>	<p>In an era dominated by automation and AI, the role of humans in cybersecurity is still often underestimated and underinvested. Yet, it's the human touch that can make all the difference in building true cyber resilience. Join us as we explore the vital role of people-centric security practices in enabling security at scale. Discover how the combination of expertise, collaboration, and adaptive thinking is the ultimate shield against evolving cyber threats.</p>
<p>WORKSHOP: (3:30 – 5:20) [F5-6] Herd Your Goats: A Hands-On Dive into Kubernetes Goat (Room: Opus One)</p>	<p>Irvin Lemus Bay Cyber League</p>	<p>In a world driven by connections, Kubernetes Goat sets the stage for us to learn together. This hands-on talk invites you to dive into Kubernetes security, spotting common slip-ups and fixing them as a team. As we tackle real-world challenges, we'll see how working together makes us smarter and our systems safer, truly living up to the conference theme: "It's the Human Network". Come along to share knowledge, solve problems, and build a community geared towards making container orchestration secure for everyone.</p>



BREAKOUT SESSION 6 - Thursday, January 4th, 4:30 – 5:20

<p>[A6] Ansible Primer for CCNA ENSA (Room: Kistler)</p>	<p>Don Aragon San Diego Community College</p>	<p>This presentation will cover the essentials of Ansible architecture and two or three short examples of Ansible in action geared towards the CCNA ENSA course.</p>
<p>[B6] Critical Infrastructure Labs NDG / INL (Room: Silver Oak/Jordan)</p>	<p>Richard Weeks, Jason Zeller and Eleanor Taylor INL.gov and NDG</p>	<p>During this session NDG and INL will present projects in the critical infrastructure cybersecurity sector: NDG Intro to Critical Infrastructure (CI) for IT Learners lab series covers topics such as Programmable Logic Controllers (PLCs), Human Machine Interfaces (HMI), SCADA systems, Modbus communication protocol, and CI protocols. After mastering some PLC basics, learners can apply their networking and cybersecurity skills to review network protocols and understand how hackers gather information to attack a PLC. Another interesting CI online lab is the DHS CISA course and lab library (301v) offered to ICS professionals by INL.gov.</p>
<p>[C6] Update on ACM Curricular Guidance for 2-year Programs and the ACM2Y community (Room: Cakebread)</p>	<p>Markus Geissler and Cara Tang Cosumnes River College and Portland Community College</p>	<p>Are you looking to create, revise, or access your college's two-year programs in Cybersecurity, Information Technology and other computing disciplines? Find out how the ACM CCECC's Bloom's for Computing report and curricular guidance documents can support your efforts, and learn how you can join ACM2Y, the ACM's community for those interested in computing education in two-year higher education programs.</p>
<p>[D6] Cisco Networking Academy & Talent Bridge Program (Room: Beringer)</p>	<p>Sara Shreve Cisco Network Academy</p>	<p>Come learn about Cisco Networking Academy, one of the largest skills-to-jobs programs in the world providing global and inclusive access for all people to participate in the evolving digital workforce through learning and digital skills development. You will also hear how the Talent Bridge program supports your students with job opportunities.</p>
<p>[E6] IBM's SkillsBuild Cybersecurity Community College Certificate (Room: Caymus)</p>	<p>Charlie Shi and Richard Grotegut Diablo Valley College</p>	<p>Diablo Valley College (DVC) has partnered with IBM SkillsBuild to offer a new 60-hour, employer-verified credential designed to prepare learners for cybersecurity careers across multiple industry sectors. The training includes professional skills (i.e. communication, professionalism, design thinking), career preparation, and technical knowledge to support individuals as they enter the workforce. Additionally, experiential components will be used to test and apply their knowledge and skills throughout the training.</p>



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BREAKOUT SESSION 7 – Friday, January 5th, 10:30 – 11:20

<p>[A7] Prompt Engineering: A Primer for Generative AI Tools (Room: Kistler)</p>	<p>Rajiv Malkan and Priti Malkan Lone Star College</p>	<p>Generative AI tools such as ChatGPT are now part of our daily work process. Most of Generative AI tools are based on Language Learning Models (LLM). To have a good output from LLM based AI tools, user requires technique and knowledge of proper prompting to get the desired output. Thoughtfully designed prompts optimize the LLM for a desired and reliable output. This presentation will focus on how Prompt Engineering works for LLM based Generative AI tools.</p>
<p>[B7] Tackling AI Dilemmas: 3 Lightning Rounds (Room: Silver Oak/Jordan)</p>	<p>Aaron Burciaga Data Prime</p>	<p>During the AI Literate Workforce breakout session, smaller breakout groups will work together through three lightning rounds, tackling AI dilemmas that span key challenges in AI Literacy, namely: ethics, education, and creativity.</p>
<p>[C7] Surfing the Digital Wave: Next Gen Approach to Cutting-Edge IT Training (Room: Cakebread)</p>	<p>Robert McMillen Ascend Education</p>	<p>High Tech IT training at the collegiate and high school level is radically changing the instructional landscape. See what's happening at Ascend Education when Professor Robert McMillen presents the digital assets that make a great educational experience today and introduce what's coming tomorrow. Instruction that includes reading, watching, listening, doing, grading, and anticipating what's ahead.</p>
<p>[D7] Straight Up Technologies - Building our Future Workforce (Room: Beringer)</p>	<p>John Grindley Straight Up Technologies</p>	<p>Built on the backbone of NetAcad Program fundamentals, SUT has a new workforce development program that is changing lives through real hands on development.</p>
<p>[E7] How to Boost Female Enrollment in your Cybersecurity Program, Finally! (Room: Caymus)</p>	<p>Donna Milgram National Institute for Women in Trades, Technology & Science</p>	<p>"Donna Milgram shows you how schools boosted female (and male) enrollments in Cybersecurity and IT programs after attending a WomenTech Educators Training. You'll get clear, practical takeaways for applying these techniques to boost enrollments in your programs. You will learn:</p> <ul style="list-style-type: none"> • The top 3 mistakes schools make that keep female enrollments low • The top 3 recruitment strategies that work • What else you need to change besides your mindset to have real results
<p>[F7] WORKSHOP: Cisco Networking Academy – Technical Updates (Room Opus One)</p>	<p>Kristen Narreau Cisco Network Academy</p>	<p>The USC Technical Manager covers the latest information and updates related to Cisco Networking Academy and Skills For All.</p>



BREAKOUT SESSION 8 - Friday, January 5th, 11:30 – 12:20

<p>[A8] Data Analytics Education: Now Imperative for Knowledge Industry (Room: Kistler)</p>	<p>Jay Garcia Alteryx SparkED</p>	<p>Discover SparkED, a no-cost education program tailored for learners of all backgrounds, emphasizing the vital role of data-driven skills in today's knowledge-driven world. Universities, colleges, secondary schools, educators, and students benefit from free Alteryx education software, customized learning pathways, certification preparation, and a vibrant online community. With hands-on practice using the no-code, code-friendly Alteryx Designer platform, SparkED empowers learners to harness the power of data analytics. Educators can access a comprehensive 10-week Data Analytics Curriculum to equip students with essential skills. Individual learners can add data analytics to their academic transcripts and apply for Alteryx internships. Academic institutions can expand STEM-related programs, preparing students for in-demand knowledge and career opportunities. SparkED also offers educators an 'out-of-the-box' program for Datathons using real-time datasets. Join this global initiative at www.alteryx.com/sparked to broaden career prospects and become part of a thriving global community of analytics professionals.</p>
<p>[B8] Network Emergency Response Vehicle (NERV) (Room: Silver Oak/Jordan)</p>	<p>Eric Knudson Cisco Crisis Response (CCR)</p>	<p>Cisco NERVs: speeding to disasters with fast, secure connections. Through storms, wildfires, or cyberattacks, Cisco's Network Emergency Response Vehicles provide world-class communications. When disaster strikes, reliable, secure connections are essential. But if critical infrastructure is down, coordinating responses can be nearly impossible. That's why Cisco's Network Emergency Response Vehicle (NERV) 2.0 can help save the day.</p> <p>By integrating a wide array of Cisco and Cisco Meraki communications, collaboration and hyperconverged server technologies in a rugged yet agile four-wheel-drive mobile platform, the NERVs are ready for just about any contingency, whether caused by storms, wildfires, cyberattacks, chemical spills, or other unexpected events.</p>
<p>[C8] Employer-Led, Future-Facing IT Technician Skill Standards: How We Did It and How You Will Benefit (Room: Cakebread)</p>	<p>Ann Beheler Collin College</p>	<p>The "IT Skill Standards 2020 and Beyond" project, funded by an NSF grant, has convened over 250 employers from across the country to identify essential job skills for the most in-demand IT job clusters. Material produced by ITSS helps IT and cyber programs nationwide align curriculum with workforce needs. This project is powered by the Business and Industry Leadership Team (BILT) model, which energizes the relationship between educators and employers to align curriculum with industry needs. Attendees will learn the essentials of the ITSS process, from effectively collaborating with employers to developing skill standards. This process works with any technical discipline.</p>
<p>[D8] OpenEDG Programs and Certifications (Room: Beringer)</p>	<p>Maciek Wichary Open Education and Development Group LLC</p>	<p>We will explore all the OpenEDG Certification Pathways that prepare you for an IT career in different areas: Python, Data Analytics, Testing, JavaScript, Web Development, C/C++, and more.</p>
<p>[E8] Free Interactive Online Content: RING, Boosting Skills in Networking and Cybersecurity (Room: Caymus)</p>	<p>Michael Qaissaunee, Debasis Bhattacharya and John Sands NCyTE and EPNC</p>	<p>In today's digital world, knowledge of networking and cybersecurity is crucial. With support from the NSA and NSF, this project makes learning these topics easier and engaging through online interactive content. We've also included math and cryptography to give learners a well-rounded understanding. During this 50-minute presentation, we'll walk you through our project journey. We'll share how we came up with the idea, developed interactive learning materials, and the steps taken to bring them online. Attendees will get access to a large library of interactive modules to make learning networking, cybersecurity, and related subjects' fun and effective. We'll also discuss how we worked together as a team to create these resources, and how this project could help prepare students and professionals for the digital challenges ahead."</p>
<p>[F8] WORKSHOP: NETLAB+ a Private Cloud for Many Hands-on Lab Needs (Room Opus One)</p>	<p>Bill Saichek and Jason Zeller NDG – NETLAB+</p>	<p>NETLAB+ has been popular for industry programs including Cisco Networking Academy, Palo Alto Networks Cybersecurity Academy, Red Hat Academy, VMware IT Academy, etc. Since COVID many schools have used NETLAB+ for a wide variety of custom projects including cybersecurity, cybersecurity competitions, programmable switches, programming, applications, etc. During this session Bill Saichek and Jason Zeller will share examples of custom pods and answer questions about deploying labs with NETLAB+.</p>

BREAKOUT SESSION 9 - Friday, January 5th, 1:30 – 2:20

<p>[A9] Learn-A-Thon: Intro to Data Science (Room: Kistler)</p>	<p>Sara Shreve and Kristen Narreau Cisco Network Academy</p>	<p>Help grow your Academies through a fun competition using the free Introduction to Data Science courses on Skills for All. There are great prizes available for the Instructors with the most student participants. To help fill the technology skills gap in Data Science. Data science jobs ranks No. 3 among the 50 best occupations in the U.S., with entry level salaries between \$46,000 to \$90,000 a year. Offer your students a fast, fun way to learn and gain the skills that employers are looking for right now. If you need help getting a Intro to Data Science course setup, we will help you live- just bring your computer!</p>
<p>[B9] Fusion of Expertise: Bridging the Gap in Regional Virtual Production (Room: Silver Oak/Jordan)</p>	<p>Joann Denning and Olivia Herriford DVC and RVPA</p>	<p>Real-Time Education and Virtual Production: Collaborative Strategies for Transformation. This conference thread explores the dynamic synergy between real-time technology, education, and industries such as virtual production. It spotlights the critical role of collaborative efforts between educational institutions and real-time industries.</p>
<p>[C9] Going all in with OER for Introduction to Computer Information Systems (Room: Cakebread)</p>	<p>Kaliya Young Merritt College</p>	<p>I want to share the process I went through to transform Introduction to CIS from a class that required 2 \$200 textbooks and taught students a 7 year out of data version of MSFT Office to one that supports students learning how to learn new software. The course also contextualizes the history of computing and issues arising in technology today so students can better engage in the public discussion and debates.</p>
<p>[D9] Fields of Innovation – Next Generation Ag Tech: Merging Apple Swift with Drone Operations in K14 Agriculture (Room: Beringer)</p>	<p>Don Daves-Rougeaux K14 TAP, BACCC</p>	<p>How do we transform K14 AgTech programs and institutions to begin to educate farmworkers to run farms via mobile solutions, drones, robotics, etc. with app development and design with Apple’s Swift, as well as the recognition of community wealth, as gateways for student engagement and industry innovation? Our aspiration is to broaden educational access across the region, enabling high schools to develop collaborative communities of practice within a regional Ag Tech program aligned to the needs of their college partners. Colleges will be empowered to welcome students from multiple high schools, bolstering enrollments in Ag and Natural Resource and ICT programs of study while fostering a thriving equity aligned academic community.</p>
<p>[E9] Virtual Reality Meets Cybersecurity: Navigating Careers Through an Immersive Interface (Room: Caymus)</p>	<p>Michael Qaisaunee Brookdale Community College</p>	<p>Getting into cybersecurity can feel like stepping into a big, complex world. Thanks to funding from the National Centers of Academic Excellence in Cybersecurity (NCAE-C) grant program, we've developed a virtual reality (VR) experience to help make that world easier to understand. Our VR setup is like a three-story building, with each floor dedicated to different areas of cybersecurity, as outlined by the NICE Workforce Categories.</p> <p>We'll take you on a tour through this virtual building. Each room you enter introduces you to a different aspect of cybersecurity—from managing secure systems, handling daily operations, to investigating cyber incidents. We've designed this experience to give a real feel of what each cybersecurity role entails, according to NICE guidelines. We'll share how we came up with this idea and made it a reality. You'll see how VR can make learning about cybersecurity careers interactive and fun, helping individuals find what areas of cybersecurity they are passionate about.</p>
<p>[F9] WORKSHOP: Virtual Labs for Security+ and Next-generation Programmable Devices (Room: Opus One)</p>	<p>Jason Zeller and Jorge Crichigno, NDG, Fort Hays State University, University of South Carolina</p>	<p>University of South Carolina (USC) has developed new lab libraries that are available in the Academic Cloud and in NETLAB+: 1) “Security Fundamentals,” and 2) “Security Applications of P4 Programmable Switches.” The “Security Fundamentals” library covers aspects of network and computer security while satisfying Security+ objectives. The fully virtualized pod enables learners to conduct cyberattacks such as Remote Access Trojan, Cross Site Scripting, SQL Injection, and others. Then, the library teaches learners how to prevent such attacks using open-source tools, including intrusion detection with Suricata, stateful filters with IP tables, and private and public-key encryption. The “Security Applications of P4 Programmable Switches” library provides hands-on experience on implementing cybersecurity applications in the data plane of switches, using the P4 programming language. The library explains topics that include the basics of P4, implementing stateful packet filters, devising in-network mitigation schemes for TCP SYN flood, DNS amplification, slow DDoS, and others.</p>