

**CISO
MAG**

beyond cybersecurity

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"I am looking for people
who are multipliers and
who help everyone else
get better."

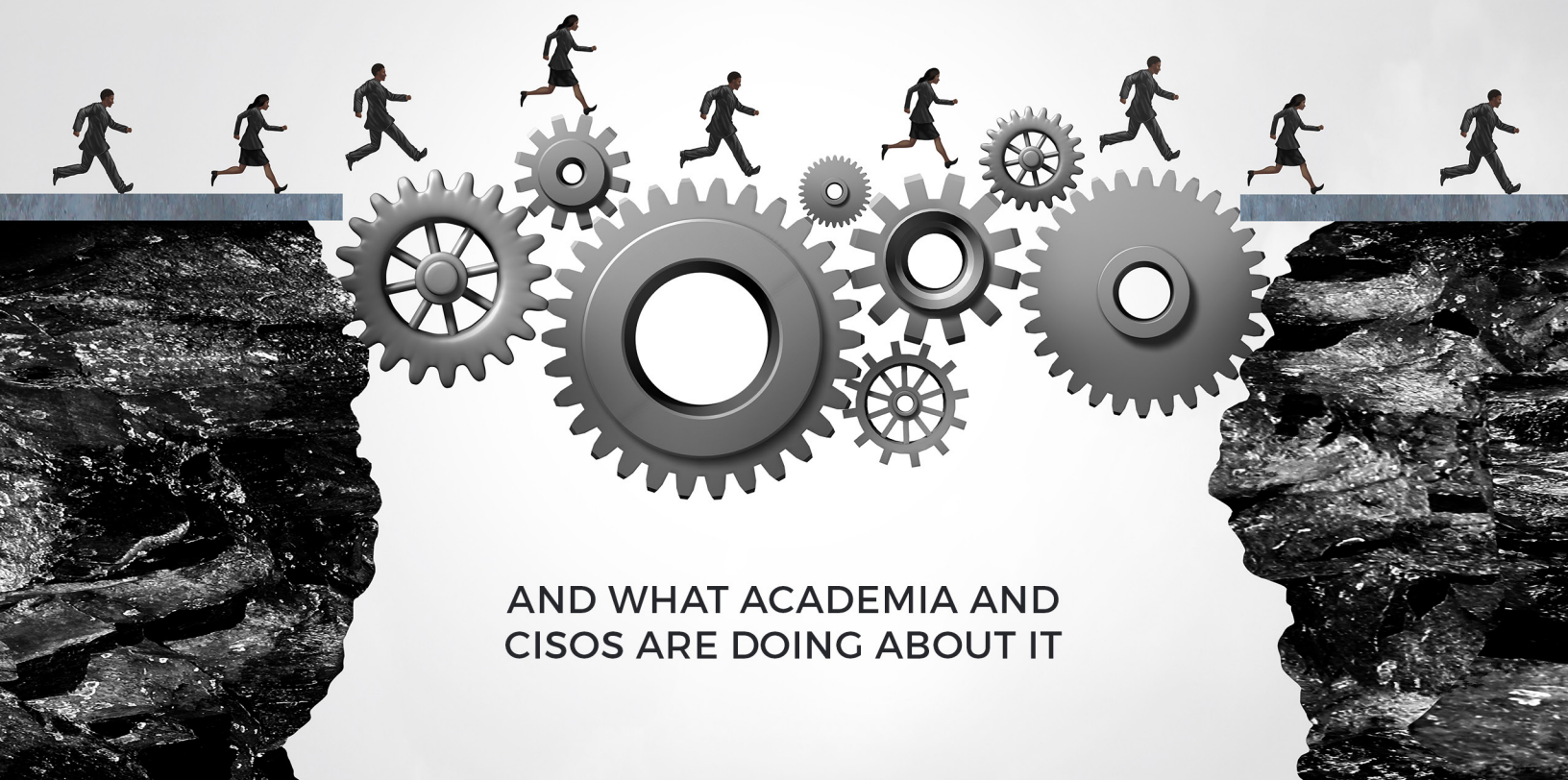
Jason Lee
Chief Information Security Officer
Zoom



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CYBERSECURITY WORKFORCE CRUNCH

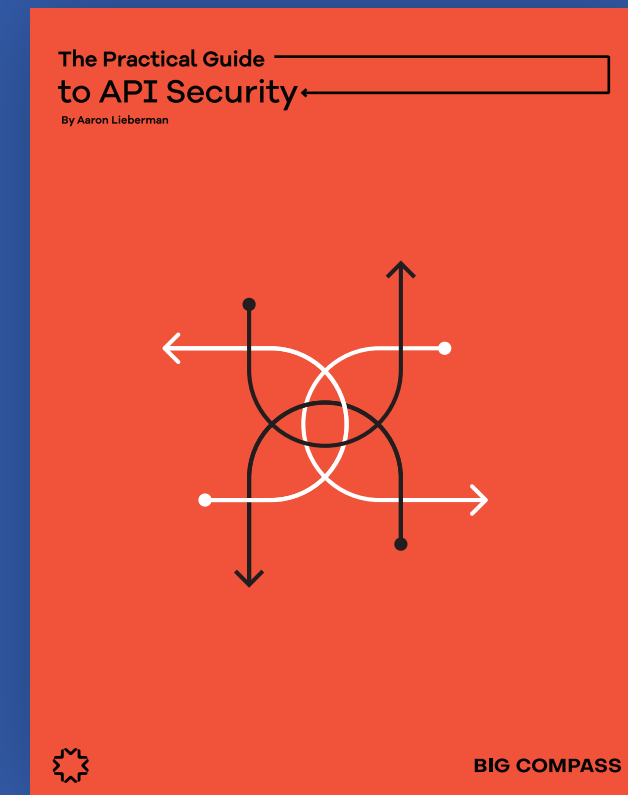
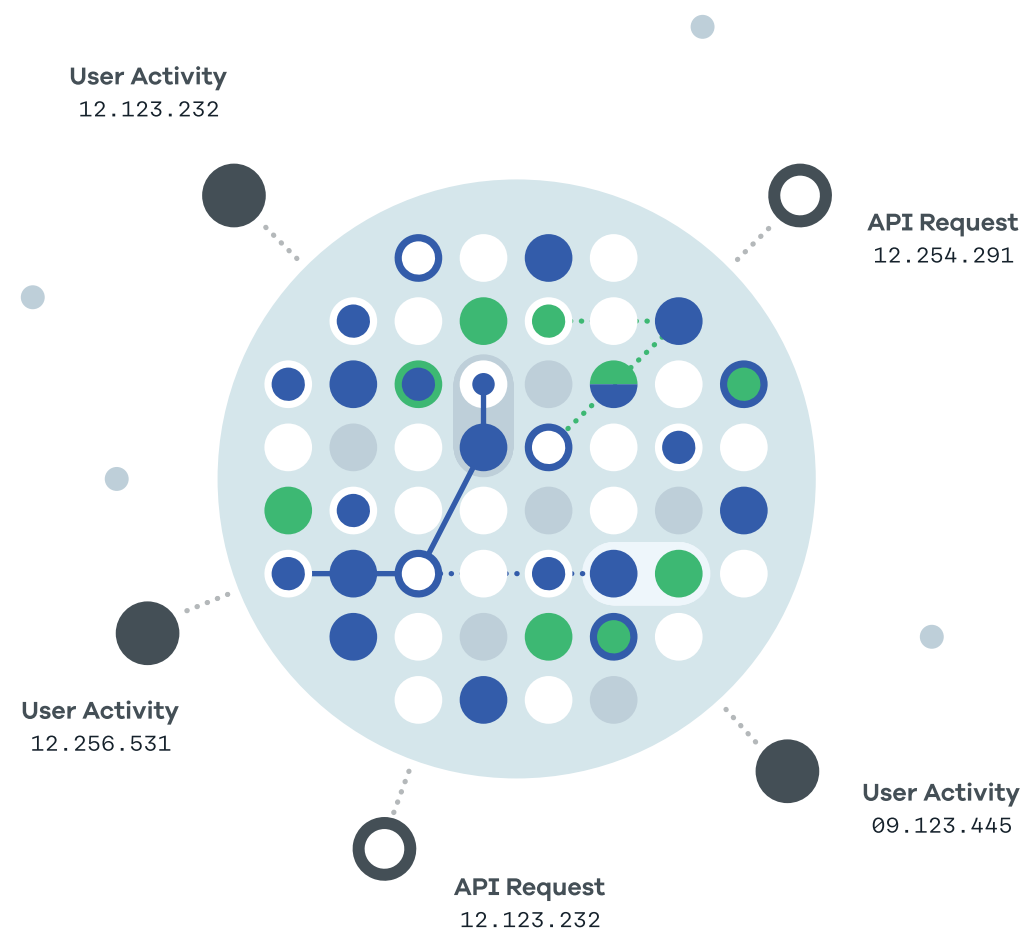


AND WHAT ACADEMIA AND
CISOS ARE DOING ABOUT IT



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EDITOR'S NOTE

CYBERSECURITY IS UNDER PRESSURE

Cyberattacks on organizations are increasing by the day, significantly impacting the operations and profitability of global organizations. Ransomware attacks are hogging the headlines, followed by attacks on companies that run their businesses on the cloud. Small and medium enterprises are frequently targetted. And there are growing attacks on critical infrastructure too. As the pandemic set in last year, 2020 saw the highest rate of cybercrime.

It seems like the adversaries are winning this war, and there aren't enough soldiers to fight back. The cybersecurity skills gap now numbers more than **4 million** unfilled jobs.

For CISOs, it's a problem to find the right talent from thousands of job applications and resumes that reach their Inboxes every week. As Zoom CISO Jason Lee tells us, "During the pandemic, it has been much more difficult to hire. There is much competition for cybersecurity experience. It is difficult to find and recruit the right people when there are so many positions open out there."

Read our interview with Lee in Under the Spotlight.

CISO MAG SURVEY AND REPORT

CISO MAG undertook a survey to assess how confident CISOs feel about hiring. In the *CISO MAG* "Confidence in Hiring," 68.96% of respondents say they are slightly understaffed (37.93%) or severely understaffed (31.03%).

That presents a massive problem across industries, in both public and private sectors.

So, what are we doing about it?

EC-COUNCIL ACADEMIA PARTNER PROGRAM

EC-Council, which owns and publishes *CISO MAG*, runs an academic partner program in the U.S. **EC-Council Academia** helps educators build world-class cybersecurity programs. It partners with universities to offer its industry-leading courses and certifications to learning communities.

In this issue, we have encouraging stories of four academic partners who, through their unique approaches, are trying to develop creative ways to foster a love of STEM and information technologies within young people.

Miami Dade College, for instance, has a robust plan in place to serve at least 800 participants over a four-year project period to fill the skill and hiring gaps in the IT sector.

Through its Center of Excellence in Cybersecurity, Research, Education, and Outreach (CREO), **North Carolina A&T State University** is rolling out multiple initiatives this year to provide its students with more opportunities. One initiative is a student-run Security Operations Center (SOC) to serve the local community and industry that will employ, pay, and certify students in an earn-as-you-learn model.

Southern Crescent Technical College offers courses to accommodate those who have work schedules or childcare issues. During COVID-19, it was especially appealing to those who are in quarantine. Since the first classes began in March 2020, the program has grown from 15 students to 51 students thus far. It has intrigued students at the high school level and their parents and individuals from other career paths.

North Carolina Central University employs innovative ways to engage students digitally, utilizing active learning strategies. It collaborates with industry speakers every week throughout the semester to engage and enhance students learning in today's current cybersecurity ecosystem.

We hope you enjoy these inspiring stories as well as the other articles in this issue.



Brian Pereira
Editor-in-Chief

PRELUDE

Building a Culture of Continuous Learning and Education

As education environments continue to advance in a digital world, students of all ages, lifestyles, backgrounds, and specializations are adjusting to new methods of learning the cybersecurity skills for tomorrow's workforce. Retaining knowledge and growing skills and abilities at all levels across emerging technologies requires practice and assessment, proving one thing: **Cybersecurity Education** is continuous to professionals at all levels.

It all starts with education. Education influences communities, communities influence industry, and as result, industry influences the types of education and skills students need to thrive in the future. The purpose of this issue is to highlight cybersecurity education models and advancements amid an almost exclusive digital learning age. We will look at the perceptions of industry on incoming post-secondary graduates, the importance of academic and community ecosystems, apprenticeship models, competitions, and accelerated programs that retool and reskill career changers now competing in the talent pipeline. We will look at what the top attributes CISOs and hiring managers are seeking in post-graduates and why, exploring the common question of "How will I know whether or not students or professionals actually know what they say they do, and can prove their skills?"

Skill development is key in the skills acquisition lifecycle. Recent trends have focused on cyber gaming to identify skills, but the constant variable remains that hiring managers often need a slightly different skill set in their entry to mid-level positions, leaving a slight gap. With the new range and scoring technologies such as [CyberQ](#), we look forward to bridging that gap, defining new ways to track skills from Secondary, to Post-Secondary, to Career.

Academic institutions are the backbone of today's digital learning communities. All roads lead to education and we hope this edition of *CISO MAG* will provide encouraging examples of institutions that focus on building continuous learning and education environments on campus and virtually.



Wesley Alvarez
Director of Academics
EC-Council | Academia



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Miami Dade Apprenticeship Partnership in Information Technology

Jason Saunders
Grant Project Manager
Miami Dade College

In 2019 the Labor Department awarded \$183Mn in apprenticeship grants through a sector-based grant strategy program called “Scaling Apprenticeship Through Sector-Based Strategies.” The purpose of this grant is to accelerate the expansion of apprenticeships to new industry sectors that are otherwise reliant on H-1B visas like information technology (IT) and IT-related industries, advanced manufacturing, and health care. One of the grant recipients was Miami Dade College (MDC), which received \$2Mn for these initiatives. MDC is a public college in Miami, Florida, and was founded in 1959. MDC has a total of eight campuses and several outreach centers throughout Miami-Dade County and is the largest college in the Florida College System with more than 100,000 students.

Through the **Miami Dade Apprenticeship Partnership in Information Technology** (the ‘MAP IT’ project), their goal is to serve at least 800 participants over a four-year project period to fill the skill and hiring gaps in the IT sector by expanding current programs and creating new Registered Apprenticeship

Programs (RAPs) and Pre-Apprenticeship Programs, as well as working to expand existing approved Industry Recognized Apprenticeship Programs (IRAPs).

As a strategic **EC-Council Academia** and **Accredited Training Center** (ATC) partner, MDC has won several awards throughout the years based on their commitments and efforts to transform communities with dynamic cybersecurity education environments from basic, non-threatening community and education environments to tactical, career readiness training and education. MDC also is one of the top utilizers of the certifications listed on the Florida Career and Professional Education Act (CAPE), eligible for District Performance Incentive Funds as their students become certified in EC-Council certifications.

“Miami Dade College is bridging the gap between degree completion and relevant experiential training an individual needs to succeed in the workforce. The training we provide embodies the term opportunity changes everything. We help our students

become competitive, through a high-tech high-touch curriculum, embrace diversity and provide culturally responsive supports in a digitally transformative manner,” said Dr. Loretta Ovueraye, MDC’s Vice Provost of Workforce Programs & Professional Learning. “The USDOL Scaling Apprenticeship Grant strengthens the college’s position as a national leader linking talent with the Information Technology sector, which is one of the seven defined targeted, high-wage, high-growth industries in Miami-Dade County. Miami is on its way to becoming a recognized technology talent hub and the MDC MAP IT program will be a great training and recruitment resource for our community.”

Through the MAP IT program, Miami Dade College’s Career & Technical Education department hopes to provide training based on, and specific to employer needs, convert work-based learning programs into formal apprenticeships and provide program flexibility. For employers, small businesses (50 employees or less) can be provided wage reimbursement for apprentices; for large businesses, MAP-IT will partner with local workforce boards to provide potential wage subsidies. MAP-IT will help provide and create apprenticeship-related technical instruction (RTI) curriculum, including support and assistance. MAP-IT may also aid employers and apprentices in covering the costs of RTI, industry certification

“

Miami Dade College is bridging the gap between degree completion and relevant experiential training an individual needs to succeed in the workforce.

DR. LORETTA OVUERAYE
MDC’s Vice Provost of Workforce Programs & Professional Learning



exams, and associated cost learning materials. With the “While You Learn,” Miami Dade College’s Apprenticeship Program makes skilled trade feasible for the apprentice. Per the Department of Education, 94% of apprentices retain their skills after completing an apprenticeship, compared to the average starting salary of \$15,000 per year. Miami Dade College’s state-of-the-art Cybersecurity Center offers degree programs in cybersecurity and cybersecurity management, supporting Florida’s economic growth.

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