



Cybersecurity: Preparing the Untapped Hispanic Community for the Profession

April 20, 2023





Amy Ramson, Esq.
Professor,
Public Policy & Law Unit



Shalom Cohen
President
EZ TECH ASSIST



Lisanette Rosario
Director of Career
Services



Introduction

Cybersecurity is a growing field that requires diverse talent. Hispanics are an untapped resource in this industry. This presentation will explore how we can prepare more Hispanics for careers in cybersecurity and learn about the Hostos Community College approach.

- Importance of Cybersecurity
- Addressing the Underrepresentation of Hispanics in the Cybersecurity Profession
- The Hostos Community College Approach

Importance of Cybersecurity in Today's World

Why is it important to Hostos, all HSI's and Industry...



Hostos Community
College



Importance of Cybersecurity in Today's World

In 2020 alone, the number of security breaches and cyber attacks rose significantly due to the pandemic.

The **Cybersecurity** field is projected to grow **35 percent** from **2021 to 2031**, much faster than the average for all occupations. The median salary is \$102,600 according to the U.S. Bureau of Labor Statistics.

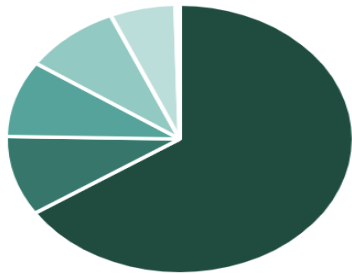
Gartner Predicts 2023: Cybersecurity Industry Focuses on the Human Deal, the analyst firm reports **that by 2025, fraud that uses AI will change the way businesses protect themselves from attack** and roughly **50% of major cybersecurity incidents will be attributed to human failure or a lack of talent.**



CYBER SECURITY ANALYST STATISTICS BY RACE

The most common ethnicity among cyber security analysts is White, which makes up 65.7% of all cyber security analysts. Comparatively, there are 9.6% of the Asian ethnicity and 9.2% of the Black or African American ethnicity.

Job Title ▾



- White, 65.7%
- Asian, 9.6%
- Black or African American, 9.2%
- Hispanic or Latino, 9.0%
- Unknown, 6.1%
- American Indian and Alaska Native, 0.4%

**Cybersecurity Analyst-
between 4-9% are Hispanic**

<https://www.zippia.com/cyber-security-analyst-jobs/demographics/> Zippia

The untapped potential of the Hispanic community in cybersecurity

The Hispanic or Latino population was 62.1 million in 2020. The Hispanic or Latino population grew 23%, while the population that was not of Hispanic or Latino origin grew 4.3% since 2010 (2020 US Census)





Hostos Community
College

ALUMNI



**Addressing the Underrepresentation of Hispanics
in the Cybersecurity Profession**

Addressing the Underrepresentation of Hispanics in the Cybersecurity Profession

This **lack of representation** is deeply concerning and **creates a barrier for the Hispanic community** to participate in the field. To begin addressing this issue, it is essential to consider the unique challenges that many Hispanics face when trying to break into cybersecurity roles.

- As recently as 2018, **a quarter of high schools with the highest percentage of Black and Latinx students did not offer Algebra II, a prerequisite for many higher-level STEM courses** and the key barrier to college graduation for most Americans (Pew research center)

Addressing the Underrepresentation of Hispanics in the Cybersecurity Profession



Colleges and organizations can help foster interest and success in cybersecurity among Hispanics

- **Invest in educational resources** and training opportunities (ex. Internships, apprenticeships virtually & in-person)
- **Increase access to mentors/coaches** who can provide support and facilitate entry in to the field
- **Provide Career resources** and **technology in the classroom**
- **Access to higher education** programs in Cybersecurity
- Providing **stipends** for **Faculty & Career Staff Development**

Addressing the Underrepresentation of Hispanics in the Cybersecurity profession

To better understand how higher education can align with industry standards, Gelareh Towhidi and Jeannie Pridmore at the University of West Georgia conducted a study to identify the best practices for universities in terms of teaching cybersecurity and maintaining secure systems.

Highlights from study:

- Multi-level approach to security essential for universities
- Up-to-date curriculum and current technologies needed
- Adhere to industry standards for audits
- Increase access to cybersecurity careers through partnerships with public or private sector organizations
- Stay ahead of the curve with best practices & industry needs



Introduce Hispanic Community to Cybersecurity



- A special **Course Innovation-Career Success grant opportunity** was offered through the The CUNY Career Success Initiative in 2019
- **Hostos Professor Amy Ramson, Esq. and Lisanette Rosario, the Director of Career Services in the Division of Academic Affairs at Hostos, were successfully awarded** the Course Innovation-Career Success grant in the Fall of 2019
- Proposal **incorporated cybersecurity and career readiness as a component in the criminal justice course titled “Issues in Law Enforcement”** which is a course in the criminal justice program
- Course **introduces students to career includes mentorship from young people working in field and a component to hone soft skills, students in cyber roles analyze a real life challenge**
- Mathematics and Engineering Professors and Professor Ramson submitted an NSF grant in 2023 to develop a major in cybersecurity with peer mentors and supports in high school

The Hostos Community College Approach

*An overview of the unique strategies adopted by Hostos Community College
Professor & Career Services Director*

- Thinking beyond Computer Science - **Law Enforcement & Cybersecurity**
- **Academic Affairs & Career Services** Partnerships
- **Collaboration** in Grant application
- **Researching industry contacts** (e.g. LinkedIn)
- Importance of engaging **industry partners** and maintaining **up-to-date curricula**



The Hostos Community College Approach

Access to Mentors and Career Readiness

Experiential Learning:

- **How mentors help develop technical and soft skills**
 - Virtual Pre-Apprenticeship
 - In-Class Guest Speakers
 - Advantages of Career exploration and experiential learning for students
 - The role of the Virtual Apprenticeship challenge fostering hands-on skills
- **Preparing students for the workforce through career readiness programs**
 - Career Services, NACE Career Readiness Competencies
 - HACU/Grow with Google, Career Readiness Program



The Hostos Community College Approach



The role of a Virtual Apprenticeship Challenge in fostering hands-on skills

IQ4's virtual apprenticeship is a comprehensive program designed to bridge the gap between education and employment.

The Virtual Apprenticeship Challenge integrates the NICE Cybersecurity Workforce Framework for students to gain practical, hands-on experience in cybersecurity.

Participants are tasked with solving a series of real-world challenges that will test their problem-solving and analytical skills. Students work in teams to review case studies and solve real-world cases.

The Hostos Community College Approach



Through hands-on activities and tasks, **students learn about risk management principles** such as threat assessment, incident response procedures and red teaming techniques.

Mentors providing guidance on best practices for completing tasks along with offering advice on how to approach challenges in an effective manner, mentors also provide assistance in setting realistic goals for participants to achieve within the challenge.

In addition to **gaining technical knowledge through mentorship**, students also benefit from direct contact with **industry professionals in the classroom** through **guest speakers** who **share their expertise**. Students learn how their new skills can be applied in real-world scenarios.

The Hostos Community College Approach



Linking Law Enforcement & Cybersecurity

Law enforcement agencies must take proactive steps to develop their knowledge and capabilities in this area due to the increased sophistication of cybercriminal activities.

Law enforcement and cybersecurity are two distinct fields, but they also have much in common.

Through exploring these topics, students are better equipped to make informed decisions about their career paths, learn key issues in law enforcement and their relevance to cybersecurity, and gain a greater appreciation for how one area of expertise informs the other.

Preparing Students for the Workforce - Career Readiness Programs

The **Issues in Law Enforcement course** not only provides a valuable hands-on learning experience, but it also **prepares students for potential careers**

Career Services professionals provide guidance to students, informing them of the **career pathways** in both **law and cybersecurity** and helping them understand the skills they have gained and how it relates to the **career readiness competencies** such as problem-solving, teamwork, communication, and collaboration.

Most recently, the **HACU/Grow with Google, Career Readiness program** was introduced for students to develop digital skills, job search strategies, create effective resumes and develop skills such as project management and problem-solving skills. Through the course and career resources provided students are able to demonstrate the Career Readiness Competencies (NACE) by the time they graduate.



Building Strong Partnerships

- **Strong partnerships** between **faculty, industry and career services**
- All three groups must **share a similar vision** and be committed to working together in order to form successful partnerships
- **Collaborations help** to provide **students** with the **skills** and knowledge necessary to excel in the job market
- Partnerships also allow students to gain access to resources and opportunities

By working together, faculty, industry professionals, and career services can help to create an integrated student experience that leads to greater success

To bolster Hispanic representation in cybersecurity, collaboration between college administrations, faculty, students and employers is paramount.

Every entity has something to offer towards this mission

Secure funding for the **creation of new degree programs in cybersecurity**, as well as scholarships to help underrepresented groups gain access

Leverage the expertise of industry partners and regularly engage to create courses and internships

Prioritize Career Services across the institution to ensure students have access to career readiness advisors dedicated to each academic program, resources, and networking opportunities

Monitor results of academic programs and initiatives to ensure that they are **effective** in increasing Hispanic representation in cybersecurity

Closing

Hostos Community College has demonstrated that with continued commitment and dedication, institutions can create more inclusive academic programs for the Hispanic community.

By following the recommendations, institutions have the potential to make a lasting impact on Hispanic representation in cybersecurity.

**Let's work together to create a brighter future for the Hispanic community, and
the field of cybersecurity.**

Questions



Hostos Community
College



Thank You!



References/Resources

Aspen Digital (2020). Cybersecurity: Diversity, Equity and Inclusion in the Field. Retrieved from <https://www.aspeninstitute.org/programs/digital-strategy-program/>

US Department of Homeland Security (2019). Hispanics in Cybersecurity Initiative – Strategies for Increasing Representation and Awareness Among Hispanic Communities. Retrieved from https://www.dhs.gov/sites/default/files/publications/Hispanic-Cybersecurity-Initiative_0.pdf.

<https://www.census.gov/library/stories/2021/08/improved-race-ethnicity-measures-reveal-united-states-population-much-more-multiracial.html>

<https://jise.org/Volume34/n1/JISE2023v34n1pp70-83.html>

Milgrom-Elcott, T., September 24, 2020, Students Of Color Are Missing Out On STEM Opportunities, So The Planet Is Missing Out On Their Brilliance. Here's How We Finally Achieve Equity In High School STEM, *Forbes Magazine*. <https://www.forbes.com/sites/taliamilgromelcott/2020/09/24/students-of-color-are-missing-out-on-stem-opportunities-so-the-planet-is-missing-out-on-their-brilliance-heres-how-we-finally-achieve-equity-in-high-school-stem/?sh=2b3f154b5148>.

Resources

[NICE Framework Resource Center | NIST](#)

[Cyber Career Pathways Tool | NICCS \(cisa.gov\)](#)

[Discovering Cybersecurity Careers | NIST](#)

[Grants Overview | U.S. Department of Education](#)

[Department of Labor Grants | U.S. Department of Labor \(dol.gov\)](#)

[A.S. in Computer Science Degree Description - Hostos Community College \(cuny.edu\)](#)

[Cybersecurity Awareness Course in Blackboard – Educational Technology \(cuny.edu\)](#)

[CUNY-BRT Cybersecurity Course Innovation and Career Readiness Grant Brings Industry Mentors to Hostos - Hostos Community College](#)

Resources

Example of Grants Received

[Two CUNY Community Colleges Receive \\$6 Million to Train 525 Health Workers to Better Serve Their Communities – CUNY Newswire](#)

[National Science Foundation Awards \\$2.3 Million to Hostos Oasis for Parents' Education Program - Hostos Community College \(cuny.edu\)](#)

[Hostos Receives A \\$2.6 Million Title V Grant Award From The United States Department Of Education - Hostos Community College \(cuny.edu\)](#)

[The Division of Continuing Education and Workforce Development \(CEWD\) at Hostos Community College re - Hostos Community College \(cuny.edu\)](#)

<https://bit.ly/NYR2022>

[Apprenticeship in Non-Traditional Occupations: A Case Study of the Hostos CEWD Community Health Work by Hostos Community College - Issuu](#)

[Layout 1 \(cuny.edu\)](#)

[Division of Continuing Education and Workforce Development \(CEWD\) at Hostos receives \\$150,000 Grant from Capital One Foundation – CUNY Newswire](#)