SECURING INFORMATION WITH ANALYTICS

MEETING TODAY'S DAUNTING INFORMATION SECURITY CHALLENGES WITH ANALYTICS-BASED CYBERSECURITY

INFORMATION SECURITY
CAREER CENTRAL

Powered by Capella University

SUMMARY

Information security threats are on the rise and organizations are seeking ways to improve their security stance with analytics-based cybersecurity. However, information security workforce shortages may significantly impact organizations and their ability to withstand the continuous onslaught of intrusions, hacks, and breaches.

The right combination of education and non-degree credentials like professional certifications and digital badges may help provide the foundation for a successful career as an information security analyst. Capella University's information security and data analytics offerings are aligned with industry standards—like the (ISC)2 body-of-knowledge frameworks and professional certifications from CompTIA and SAS —to prepare professionals to meet today's cybersecurity threats.

Capella University has been designated by the National Security Agency (NSA) and the Department of Homeland Security (DHS) as a National Center of Academic Excellence in Information Assurance/Cyber Defense (CAE IA/CD) for academic years 2014–2021.

[1]SOURCE: The 2015 (ISC)2 Global Information Security Workforce Study. Frost & Sullivan. https://www.isc2cares.org/uploadedFiles/wwwisc2caresorg/Content/GISWS/FrostSullivan-(ISC)²-Global-Information-Security-Workforce-Study-2015.pdf

CHALLENGE

LEVERAGING BIG DATA TO COMBAT CYBERTHREATS

As cyberattacks continue to rise, organizations are looking for new ways to address these escalating challenges. A 2015 report by IT research and strategy firm Enterprise Strategy Group calls for information security tactics that leverage big data to combat today's most dangerous cyber threats.[1]

According to the ESG report, this approach, named analytics-driven cybersecurity, improves enterprise cybersecurity in four important ways:

1. Casting a wider net on relevant data.
Collecting data from a wide variety of sources, making data available to all members of the security group, and conducting historical analysis can help address the ways in which multidimensional attacks cross numerous systems, networks, and files.

2. Enhancing data to add context and make it actionable.
Security teams need the ability to tag, index, enrich, and query data elements to get a wider perspective for threat detection and response.

3. Using a wide-angle data lens.
To investigate systems, protocols, network traffic, and historical timeframes, security teams need to shift from one data element to another using any data field or value. This perspective makes it possible to follow the evidence from field value to context, and trace the steps attackers have taken.

4. Improving usability.
For security teams to effectively query and understand data, a simple user interface and search-based access to data is a must. Systems should permit dashboard and report creation and offer visual analytics to provide a view of relationships and historical trends.

CHALLENGE (CONTINUED)

Organizations are seeking information security analysts to drive this approach to cybersecurity but are challenged by a global information security workforce shortfall, which (ISC)[2] estimates will reach 1.5 million jobs in five years. This estimated shortage would likely not be due to insufficient want or budget to hire IT security professionals; it will likely be caused by a lack of available, qualified security workers.[2]

SYMANTEC ESTIMATES THAT IN 2015, OVER A HALF A BILLION PERSONAL RECORDS WERE STOLEN OR LOST, AN **INCREASE OF 23 PERCENT** FROM THE PREVIOUS YEAR.[3]

IN A 2015 (ISC)[2] SURVEY OF INFORMATION SECURITY PROFESSIONALS, **53 PERCENT** REPORTED THEIR ORGANIZATION IS VERY LIKELY OR SOMEWHAT LIKELY TO HIRE SECURITY PROFESSIONALS WITH SPECIALIZED SKILLS OR EXPERTISE IN ADVANCED ANALYTICS.[4]

[1]SOURCE: An Analytics-based Approach to Cybersecurity. John Oltsik. Enterprise Strategy Group ·http://www.splunk.com/content/dam/splunk2/pdfs/white-papers/esg-solution-showcase-splunk-may-2015.pdf

[2] SOURCE: The 2015 (ISC)[2] Global Information Security Workforce Study. Frost & Sullivan. https://www.isc2cares.org/uploadedFiles/wwwisc2caresorg/Content/GISWS/FrostSullivan-(ISC)%C2%B2-Global-Information-Security-Workforce-Study-2015.pdf

[3] SOURCE: 2016 Internet Security Report. Symantic Corporation. https://www.symantec.com/security-center/threat-report

[4]SOURCE: The 2015 (ISC)2 Global Information Security Workforce Study. Frost & Sullivan. https://www.isc2cares.org/uploadedFiles/wwwisc2caresorg/Content/GISWS/FrostSullivan-(ISC)²-Global-Information-Security-Workforce-Study-2015.pdf

SOLUTION

DEVELOPING TOMRORROW'S INFORMATION SECURITY ANALYSTS

Analytics-driven cybersecurity requires professionals who can transform data from systems, networks, users, and activities into actionable insights that inform organizational goals and strategies. Capella University's information security and data analytics programs are professionally aligned to prepare future information security analysts with the right foundational knowledge, specialized skills, and hands-on experience to meet these challenges.

Bachelor of Science in Information Technology, Information Assurance and Security Specialization

In this program, students will learn to apply the latest methods of enterprise-wide security and gain the skills to:

- Design technical strategies to reduce risks to information assets.
- Ensure accuracy and integrity of data through audit, management, and models.
- Evaluate and manage information security risks.
- Communicate effectively with stakeholders.

Bachelor of Science in Information Technology, Minor in Data Analytics

With the data analytics minor, students can build the immediately applicable knowledge, skills, and abilities to:

- Understand and solve business challenges using a variety of industry-leading data analytics tools and techniques.
- Address the processes, workflows, and activities that make up the world of data.
- Understand how data governance and management affect the transformation, manipulation, analysis, and presentation of data.

SOLUTION (CONTINUED)

Master of Science in Analytics

This program was developed in collaboration with SAS, the leader in business analytics software and services and the largest independent vendor in the business intelligence sector. By building skills in data mining, statistics, applied analytics, modeling, forecasting, and more, students will learn to:

- Identify organizational problems that can be solved using analytics and provide actionable solutions.
- Select and use appropriate analytics tools.
- Apply foundational theories of the field.
- Integrate ethical considerations into the analysis and presentation of the results.
- Represent data and information through effective reporting and visual analytics.
- Develop models using both structured and unstructured data from multiple sources.

Master of Science in Information Assurance and Security

With specializations in health care security, digital forensics, and network defense, this program prepares students to:

- Develop solutions for current issues in the information security industry.
- Select and use appropriate tools and plan strategies to keep information assets safe.
- Integrate general information security and specialized security functions within small and mid-sized businesses as well as large and global organizations.
- Communicate effectively with technology stakeholders.

IN 2015, THE **ANNUAL MEDIAN SALARY** FOR INFORMATION SECURITY ANALYSTS **EXCEEDED $90,000.**[1]

EMPLOYMENT OF INFORMATION SECURITY ANALYSTS IS **PROJECTED TO GROW 18 PERCENT** FROM 2014 TO 2024.[2]

[1]SOURCE: Bureau of Labor Statistics. http://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm

[2]SOURCE: Bureau of Labor Statistics. http://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm

WHY CHOOSE CAPELLA?

HANDS-ON LEARNING

Students in Capella's information technology programs practice their skills in a secure virtual lab that offers hands-on experience with tools used in the industry.

Students in Capella's Master of Science in Analytics will complete a cutting-edge, interactive virtual internship. Using Vila Health™, a simulated health care provider, students will investigate complex data sets, determine the proper analytic tools to use, and present findings to leaders in a succinct, powerful visualization—all while building vital team skills sought by today's employers

PLURALSIGHT PARTNERSHIP

Pluralsight, a global leader in online learning for IT specialists, has partnered with Capella to integrate innovative content into select courses in the Bachelor of Science in Information Technology and Master of Science in Analytics programs. Students receive hands-on, practical learning for today's most in-demand and understaffed jobs as well as full access to Pluralsight's complete library of 4,500 online courses at no extra cost.

DIGITAL BADGING

Students in Capella's Information Assurance and Security programs also have the opportunity to earn one or more NSA digital badges. This credential provides another way of validating and sharing academic achievements with potential employers on LinkedIn, Twitter, Facebook, in email, and elsewhere online.

CERTIFICATION EXAM PREPARATION

These programs provide students with the knowledge and skills required for relevant professional certifications—and a voucher to take the exam for free.

Capella's Bachelor of Science in Information Technology program prepares students to test for the following certifications:

- CompTIA A+
- CompTIA Network+
- CompTIA Security+
- CompTIA Project+

Capella's Bachelor of Science in Information Technology, Minor in Data Analytics plus the free SAS Base Programmer 1 and 2 courses can build the foundational knowledge required for completion of the SAS Certified Base Programmer professional certification.

This program prepares students to test for the following certifications—and a voucher to take the exam for free:

- CompTIA A+
- CompTIA Network+
- CompTIA Security+
- CompTIA Project+

Capella's Master of Science in Analytics prepares students for the following certification exams:

- SAS Base Programmer for SAS 9
- SAS Certified Advanced Programmer for SAS 9
- SAS Certified Statistical Business Analyst Using SAS 9
- SAS Certified Predictive Modeler Using SAS Enterprise Miner 13

WHY CHOOSE CAPELLA? (CONTINUED)

TWO BACHELOR'S DEGREE LEARNING FORMAT OPTIONS

Capella's BS in IT with a specialization in Information Assurance and Security is available in two learning options – a flexible, yet structured approach and FlexPath, Capella's self-paced learning format.

Compare Capella's learning format options:

	STRUCTURED	FLEXPATH
Course Structure	Faculty-led discussions and assignments.	Work independently at your own pace with no preset due dates.
Assignment and Course Activity Deadlines	Weekly	12 weeks from course start date
Course Materials	Required textbooks and materials.	Use the suggested source material or resources of your choosing — videos, articles, or your own work experience.
Courseload	A maximum of 3 courses can be taken a quarter.	No limit. (A maximum of 2 courses can be taken at any one time.)
Tuition Structure	Pay per credit or course.	Pay one flat tuition rate every 12 weeks.

ACCREDITATIONS AND DESIGNATIONS

Capella University has been designated by the National Security Agency (NSA) and the Department of Homeland Security (DHS) as a National Center of Academic Excellence in Information Assurance/Cyber Defense (CAE IA/CD) for academic years 2014–2021.

ABET Computing Accreditation Commission

Capella's BS in IT program is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org*

*The FlexPath format for the BS in Information Technology program specialization is not accredited by the Computing Accreditation Commission of ABET

The courses in Capella's Bachelor of Science in Information Technology, Information Assurance and Security Specialization reflect the Systems Security Certified Practitioner (SSCP®) and Certified Information Systems Security Professional (CISSP®) body-of-knowledge frameworks developed by the International Information Systems Security Certification Consortium (ISC)².

ABOUT CAPELLA

Capella University is an accredited online university. Capella offers graduate and undergraduate specializations as well as certificate programs designed to help working adults advance in their careers. Capella programs are aligned with professional standards and available anywhere and anytime, allowing busy professionals to gain the skills required for career success at a time and place that fits their schedule.

EXCEPTIONAL FACULTY

Most of Capella's faculty in the School of Business and Technology hold doctorates. They also bring real-world expertise to the courseroom, with many holding current positions in small businesses, government, non-profits, consulting, and higher education. Many faculty members are published authors and industry leaders at organizations such as IBM, Microsoft, and Vulcan Systems.

See graduation rates, median student debt, and other information at www.capellaresults.com/outcomes.asp.

Request more information and find out how Capella University can help you build a career in information security analytics.