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Cybersecurity data analytics vital in higher education

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In today's rapidly evolving digital landscape, the importance of cybersecurity has become more pronounced than ever before. As cyber threats continue to

escalate, the demand for skilled technology professionals in this field has reached a critical juncture.

However, the types of cybersecurity positions that are in highest demand are not “entry-level” positions. Instead, the demand is for cybersecurity professionals who can leverage some of the latest advances in order to protect enterprises. And those advances today center on applying data analytics, artificial intelligence (AI), and machine learning (ML) to cybersecurity.

For several years, data analytics has been applied to areas such as advertising, human resources and similar areas. However, now data analytics is applied to a wide range of job profiles; in fact, over 90 different job profiles – many of which are outside information technology (IT) – are recognized today.

More recently, data analytics is being applied to cybersecurity. Why? It’s because of what data analytics can do in regard to fending off attacks by threat actors. Data analytics uses data, tools, and techniques to identify patterns and trends to generation actional insights that support informed decision making.

There are four key roles of data analytics: descriptive (what is happening), diagnostic (why is this happening), predictive (what is likely to happen) and prescriptive (what do I need to do). When data analytics is applied to cybersecurity it enables enterprises to not only better identify what is happening and why, but it also critically provides insight into what will happen and what needs to

be done. In other words, applying data analytics to cybersecurity can help predict attacks instead of just reacting to past attacks.

WKU's Cybersecurity Data Analytics graduate program offers a master's degree in Cybersecurity Data Analytics, as well as certificates in cybersecurity data analytics and in data analytics. These degrees and certificates are vital as we navigate an era where our personal and professional lives are increasingly connected to the digital realm. A workforce well-versed in data analytics and how it is applied to cybersecurity is essential for businesses, governments and organizations in order to not only survive but more importantly to thrive in today's digital age.

By acknowledging the importance of higher education in data analytics and how it is applied to cybersecurity, WKU is taking a proactive stance in fortifying our defenses against cyber threats and advancing the next generation of cybersecurity and data analytics innovators.

It is essential that educational institutions continue developing robust cybersecurity curricula and that policymakers recognize the urgency of supporting initiatives that promote cybersecurity education. Together, we can foster a safer and more secure digital environment for all.

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