Raw numbers aren’t worth much.

But once the data is cleaned up, organized and ready for analysis? It can help companies understand their strengths and weaknesses and give them a leg up on the competition.

“What happened is that overnight all of the companies we talk to are starting data science groups,” said Joaquin Carbonara, a SUNY Buffalo State professor in mathematics and the college’s Interdisciplinary Unit in Data Science & Analytics.

“These groups look at information such as customer or sales data. They use computational techniques to bring all of that data down to the same level,” he said. “Once that happens, the data needs to be analyzed.”

The job requires technical skills along with the ability to understand business, and employers are finding that mix of talent doesn’t grow on trees, Carbonara said.

It’s the context for several new master’s degrees in Western New York. Buffalo State started its master’s in data and analytics last fall and Canisius College launched a
master’s degree in data analytics at the same time.

More than 30 students are enrolled in the Buffalo State program, which involves a group of skill-oriented classes combined with courses from other disciplines, such as communications or geography. (A second, more-structured program is aimed mainly at international students.)

Internships and experiential work are other points of emphasis.

The point is to create prospective workers with niche expertise in a given industry and the technology background to help improve companies.

“You need to know programming, to understand the theory of how data is stored. But you also need to deliver that information in a way that the decision-makers of a company can understand it,” Carbonara said. “They are not the experts in computer science or statistics but they are the ones making the decision.”

About 7,100 people work as database administrators in New York state, according to the U.S. Bureau of Labor Statistics. Their average annual wage is $99,000. Across the country, the workforce is expected to grow by 11 percent between 2016 and 2026.

Canisius started the master’s degree after academic leaders heard about demand for those workers from local employers, said H. David Sheets, a physics professor who directs the program.

He said the program teaches skills such as programming and that some kind of experience with statistics and computer software is useful. About 25 students are enrolled.

Like Buffalo State, the Canisius program draws faculty members from different areas of expertise, including the Richard J. Wehle School of Business and the College of Arts & Sciences. The program encourages a specialization in a given industry.

Canisius has placed students at internships in local consulting firms, insurance companies and banks in Buffalo. Several students who completed internships were hired right away. The college works closely with an advisory council made up of local employers.
"This industry has a chance to grow the local economy," Sheets said. "It's a good situation for the community and I think our program will be part of that."

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